

# MASSA Outreach

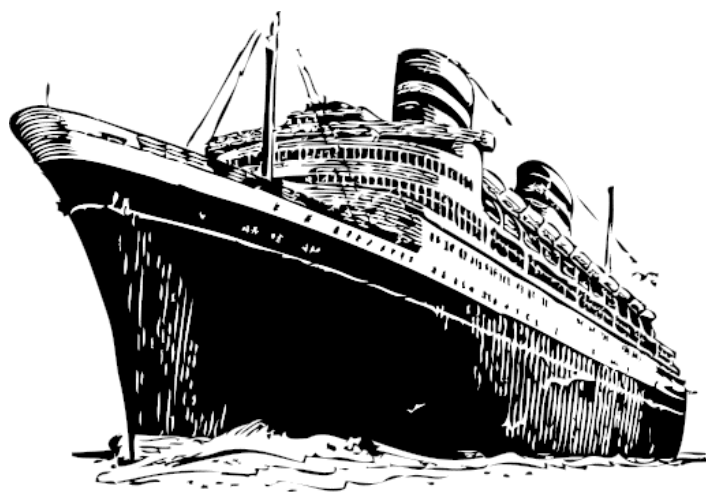
May 2017

*“You must not lose faith in humanity. Humanity is like an **ocean**; if few drops of the **ocean** are dirty, the **ocean** does not become dirty” - Mahatma Gandhi*





**Capt Prashant Rangnekar**



It is my honour and privilege to take over as Chairman of Massa, and having taken charge of the chairmanship in January this year, I wish to use this opportunity to wish all our members and seafarers a very pleasant and successful 2017.

I also take this opportunity to thank the outgoing Chairman, Capt. S.M. Halbe, for having successfully guided MASSA and for having served the interest of our member lines and the industry in a very august manner, much befitting Massa's position of industry leadership.

The year 2016 ended with the effects of de-monetization still ringing in our ears. Hearteningly, the industry has successfully weathered the turbulence and moved on thenceforth. The Shipping industry, though, is still in a challenging phase, with most segments struggling to overcome the worst ever period in the maritime industry for over a decade. Containers and Bulker markets continue to struggle. The challenging conditions in the container shipping industry continued to add pressure to Japan's major shipping companies; not to mention the South Korean, Hanjin Shipping Co Ltd declaring bankruptcy. Hopefully this year the industry will see the much-awaited reversal in its fortunes.

The year opened with nearly 300 tonnes of oil spilled into the narrow strait separating Singapore and Malaysia after a collision between two container vessels. Fortunately, there were no casualties and no traffic issues due to the collision. Singapore's shipyards have been affected hugely by the downturn in the offshore Industry and many of the shipyards became defacto owners of the rigs they have built- such has been the glut.

The Shipping industry's move towards cleaner seas is piloted this year by the ICS cap on sulphur content in bunkers. Widespread availability of alternative fuels (such as hydrogen or fuel cells) however is not expected for at least another 20 or 30 years. As known, the sector's total CO<sub>2</sub> has already been reduced by more than 10 percent between 2007 and 2012. But trade growth suggests that further reductions in the sector's total CO<sub>2</sub> will be difficult

to achieve soon until alternative marine fuels become widely available. The bunker industry has voiced its protests and it remains to be seen how soon we embrace the clean air concepts.

Then in Jan 2017, despite suffering the biggest total drop in total fleet value ever, Greek owners held on to their spot at the top as NO 1 ship owning nation in the world with a \$84.079 billion fleet. Greece also held onto its lead in the bulk carrier and tanker categories. But India doesn't feature among these top 10. With a resurgent Shipping Ministry, very active seafaring bodies, and Mega plans for numerous ports, etc., I hope for positive change in the near future- for surely we can use our enviable coastline better. Under the Sagarmala Programme, more than 40 projects with estimated cost of approximately INR 85,000 Crore, have been identified across the four pillars of Port Modernization & New Port Development, Port Connectivity Enhancement, Port-led-Industrial Development and Coastal Community Development. Sagarmala, an initiative taken by the Ministry of Shipping is one of the strategic plans to promote port led development in India. It aims to leverage India's 7,500 km long coastline, 14,500 km of potentially navigable waterways and strategic locations on key international maritime trade routes. Sagarmala will also boost development of the coastal economy, save logistics costs, balance modal mix for cargo movement, leading to growth in manufacturing sector and facilitating ease of doing business; besides contributing to shipping growth overall, including providing new employment opportunities to young Indians.

Further away from our coastline, worries have arisen about the declaration of the Sulu Sea between eastern Malaysia and the Philippines as a piracy prone area. The rising threat of kidnappings and attacks on Merchant Shipping makes this an area to avoid or be very cautious while transiting it. While piracy is definitely on the decline in the Arabian Sea, previously a hotbed of pirate attacks, it is hoped that the authorities will move in swiftly to address any emerging threats.

With the dawning of 2017, the crewing industry had uttered a sigh of relief for successful transition from STCW 95 to STCW 2010. However with the DGS office issuing a new circular on 17th January 2017 making the High Voltage course mandatory for all Engineers and ETOs it was realised that the struggle was not quite over yet.

New obligations under the Maritime Labour Convention (MLC 2006) which require shipowners to have compulsory insurance to cover abandonment of seafarers, as well as claims for death or long-term disability of seafarers, came into force on 18th January. The 2014 amendments to the MLC 2006, which comes under the auspices of the International Labour Organization (ILO), are based on guidelines which were developed by a joint IMO/ILO working group, which reported to both IMO's Legal Committee and ILO's governing bodies.

The collision between a gas tanker from Oslo-listed shipping company BW LPG and an Indian ship off the coast of Chennai in India contributed to an oil spill that devastated the Chennai coastline. It was heartening however to see the Maritime Institutes and the local marine fraternity pull all stops to help minimize the impact of the oil spill. Such incidents call for corrections through new systems on the Indian coast which I hope will be sooner than later, and prevent further accidents of this nature.

Recently the industry also witnessed a few incidents at sea, unfortunately some involving loss of life. With every incident, the industry goes into a self-examination mode to control such losses of life and property at sea. Our prayers for the departed souls and for the families of the victims, as we strive to make ships as safe and secure as possible.

To close on a positive note, the recently concluded National Maritime Day celebration had a unique theme of 'Connecting India through shipping'. The onus is on the industry for spreading the good word about shipping and reaching out to the masses. But we realise that there is more to do than attract young talent to this excellent profession. We as an industry are working together with the Administration to smoothen the wrinkles whereby the processes involved in transition from a trainee rank to a higher position at sea is less troublesome and the target of enhancing Indian foot prints on foreign vessels is achieved.

I take this opportunity to wish all seafarers a safe and successful tenure at sea, and happy days ahead to one and all.



**MARITIME ASSOCIATION OF SHIPOWNERS SHIPMANAGERS & AGENTS**

*The association that marches on...*

**MASSA is actively involved in:**

- **Facilitating, Promoting and Protection the business activities of member lines.**
- **Liaising with national, international, governmental and non-governmental organisation as well as seafarers recognized unions on behalf of members lines.**
- **Supporting the welfare activities to benefit employees or ex employees of the maritime (Seafaring) fraternity or their spouse, dependant and/or their next of kin as applicable**

**MASSA, endeavours to be a leading Association, to:**

- **Augment and safeguard business interest of memberlines primarily related to recruitment and placement services.**
- **Assist in development of infrastructure which helps business interest of memberlines, primarily related to employment of seafarers onboard ships.**
- **Liaise with National and International organizations to support the supply and demand of quality seafarers and recruitment and placement services in India**
- **Share information and knowledge on various issues so that Member lines and Maritime authorities can make appropriate discussions.**

The new financial year 2017-18 has begun and the Indian Maritime Industry has with full gusto initiated celebrations for the National Maritime Day which falls on 5th April, 2017. The theme for the National Maritime Day Celebrations this year is "CONNECTING INDIA THROUGH SHIPPING". The Directorate General of shipping and the National Maritime Day Celebrations Committee have requested all to publicize the Indian Maritime Industry far and wide especially to non-maritime entities and individuals. In the past, the National Maritime Day Celebration was celebrated mainly amongst the seafaring fraternities but this year attempts were made to publicize the event to the general public by organizing events such as maritime exhibition and a fun run for the participation of those in the maritime fraternity and also the public at large.

The Indian seafarer's skills and competency are highly above average in the world but unfortunately, our market share of seafarers worldwide has still a long way to go verses that of other countries such as the Philippines. This has bought anxiety to the Indian shipping manning industry and therefore need to concentrate on ways and means to increase the market share of Indian seafarers in the seafarers global market. In order to achieve this, MASSA has initiated a programme to be undertaken by a Consultancy Service engaged exclusively by MASSA to survey, research and collect statistic and data on the New Entry and post-sea training, examination, time taken by candidates to success-



**Capt Clarence Athaide**

fully complete their Certificate of Competency and Certificate of Proficiency. And time taken for final assessment and issuance of such certificates by the in Indian Administration. The above statistics and data will be compared to similar training, examination and assessment carried out in other countries such as UK, Singapore and New Zealand etc.

The final project report, on completion, will be reviewed by MASSA and then offered to DGS for their perusal, comments and end to end solutions to enhance the mechanism being followed by the Indian Administration. This exercise will reduce the gap and time taken to complete training and certification in India. This in turn will increase the number of candidates available for employment in the world seafarers market.

MASSA wishes all a bright and prosperous future.

**Capt Clarence P Athaide**  
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# Connecting India through Shipping

## Mumbai celebrates Grand Finale of 54th National Maritime Day



The 54th National Maritime Day was observed in Mumbai's YB Chavan Auditorium amid avid fanfare by shipping veterans, dignitaries, and seafarers on 5th April.

This celebration marked the culmination of the week-long activities observed across the nation from 29th March to 5th April.

The theme of the National Maritime Day 2017 was 'Connecting India through Shipping'.

Addressing the gathering on the grand finale at Mumbai, Dr Malini Shankar, Director General of Shipping elucidated on the importance of celebrating National Maritime day and emphasized the value of shipping to modern society.

The National Maritime Day was first celebrated on 5th April 1964.

"April 5 marks the National Maritime Day of India.

On this day in 1919, navigation history was created when SS Loyalty, the first Indian flagship, sailed from Mumbai to the United Kingdom. However, India's maritime history can be traced back to Indus civilization," stated Dr Shankar.

A series of activities took place during the week to highlight the role of, and promote, the Indian shipping industry. This was in the form of elocution and painting competitions, in which students from different schools across Mumbai participated. The winners of the competition were felicitated on this day.

A fun run of 2 kms at Mumbai's Ballard Pier was a part of the celebration and witnessed the participation from seafarers in huge numbers. A photo exhibition was organised for 3 days at the YB Chavan premises too.

Gracing the occasion was the Chief Guest Vice





Admiral Girish Luthra, AVSM, VSM, and Flag Officer Commanding-in-Chief of the Southern Naval Command. Also present at the celebration as Guest of Honour was Mrs Lakshmi Venkatachalam, Vice President of Manila-based Asian Development Bank (ADB), and ex-Director General of Shipping, along with The Shipping Corporation of India's (SCI) Chairman and Managing Director, Capt Anoop Sharma, and SCI's Director, Personnel and Administrative Division, Capt BB Sinha.

Vice Admiral Girish Luthra highlighted the importance of the maritime domain in national, regional and global growth and development. "The Indian Navy and the Indian Merchant Navy complement each other," he said. He brought out the emerging trends in the Indo-Pacific region, merchandise trade, export-import and the new focus on the maritime domain. "The Indian Navy has adapted its strategy to the changing environment, in order to promote and strengthen security, stability and safety at sea," added the Vice Admiral.

Many shipping dignitaries were also honoured and felicitated on the day for their yeomen service towards the industry.

The principal objective of celebrating the Day is to enable the public to know more intimately about the activities of the Indian Shipping Industry and the important role it plays in the economy of the country. The need for shipping industry and the requirement of seafarers are highlighted in various ways on this occasion. Shipping has been rightly



### WREATH-LAYING CEREMONY

On the eve of the National Maritime Day, a wreath-laying ceremony was performed at The Indian Sailors' Home to pay tributes to the unsung seafarers who laid their lives at sea. This was attended in large numbers by shipping dignitaries, member unions, representatives of SCI and other shipping companies. Dr Malini Shankar, DGS, led the special ceremonies.

called the 'Silent Service' as most of the shipping activity takes place away from land. In India, the public at large has very limited opportunities to observe for themselves the yeoman service rendered by the Indian shipping industry for the promotion of the economic well-being of the country. The observance of the National Maritime Day, therefore serves a long felt need in bringing people closer to the shipping industry and enabling them to participate in the celebrations; so that they can share the sense of pride and achievement at the rapid strides made by the Indian shipping.



## PHOTO EXHIBITION

A Photo Exhibition organised as part of the National Maritime Week celebrations on 4th April at the YB Chavan Auditorium was inaugurated by Mr Sumeet Mallick, (IAS), Chief Secretary to The Government of Maharashtra. It showcased the photos and ship models in India of different era.

Speaking on the occasion, Dr Shankar said “The National Maritime Week seeks to foster stronger bonds of co-operation among seafarers. The photo exhibition is a small effort on our part to educate the public at large on the role played by the shipping industry.”

She also encouraged people from the interior to take the job opportunities available in the maritime sector.

Appreciating this new concept, Prasad Kulkarni, a media professional said, “I attend a lot of events but it is nice to attend an event which is nationally oriented. This event is not only committed to the domestic circuit but also has international exposure. I feel a lot of gratitude towards our sailors who leave their families for long periods for the sake of the nation. I am very proud of our sailor fraternity and wish them well.”

## NMD AWARD WINNERS

### **Varuna Award -**

Capt Purushottam Shankar Barve

### **Award of Excellence -**

Mr Mayilrangam Viswanathan Ramamurthy

### **Outstanding contribution to maritime education and training award -**

Capt Chhote Lal Dubey

### **Gallantry Award -**

Capt Devendra Kumar

Capt Jimmy Joseph

### **Eminent Overseas maritime personality award -**

Mr Kishore Rajvanshy

### **Best Foreign Employer of Indian Seafarers -**

MSC Crewing Services Pvt Ltd

### **Most Compassionate Employer of Indian Seafarers -**

Elegant Marine Services Pvt Ltd

Wallem Shipmanagement (India) Pvt Ltd



# Role of Entrepreneurs and Start-ups in the marine industry-Enabling through a 'Maritime Cluster' approach

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National Maritime Foundation, New Delhi a premier maritime think-tank held the Annual Maritime Power Conference-2017 at Delhi on the theme of **The Blue Economy: Concepts, Constituents and Development**, and invited Principal, MASSA Academy, Chennai to submit a research paper and make a presentation in Session 5: **Enablers of the Blue Economy** on the specific subject of **Role of Entrepreneurs and Start-ups in the marine industry**.

Reproduced here is the extract of the research paper as presented at the conference.

MTRF has pioneered the implementation of 'Maritime Cluster' in our country as 'Knowledge Partner' to Gujarat Maritime Board from where the MoS has taken up the idea and recently established two 'maritime clusters in India – one in Gujarat and other in Chennai, Tamil Nadu.

## Introduction

This presentation approaches the role of Entrepreneurs and Start-ups in the marine industry through a 'maritime cluster approach'. It dwells on the cluster theory first, and through its application analyses practical performances of some maritime clusters in the European countries. It identifies those specific enabling features of maritime cluster that create a fertile ground for Entrepreneurship and start-ups to take root and grow faster than otherwise in the diverse domains of what we call the 'Blue Economy'.

Two specific areas we will explore in this context,

(a) what are the advantages for entrepreneurs and start-up firms to locate in a cluster, and

(b) what cluster specific factors influence the enabling environment for entrepreneurs and start-ups.

## Definition of Cluster and its underpinning theory

Clusters are defined as 'geographic concentration of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions in particular fields that compete but also cooperate'<sup>1</sup>.

The fundamental rationale of forming clusters being 'agglomeration economies' – was established since the evolution of neoclassical school of economics of the 80s, but the concept and impact on economic performance was refined beyond cost-efficiency advantages by Krugman<sup>3</sup> as exponent of new economic geography and Michael Porter<sup>4</sup> who are regarded highly in this field. They recognized the dynamic

nature of clusters holding potential for sustained competitive advantage.

Porter's diamond model conceptualizes the dynamic elements contributing towards national competitiveness.

Clusters improve the factor conditions, which is the inputs that firms need in their operations, such as specialized labour and skills, targeted capital, infrastructure, technologies, research, education, and knowledge.

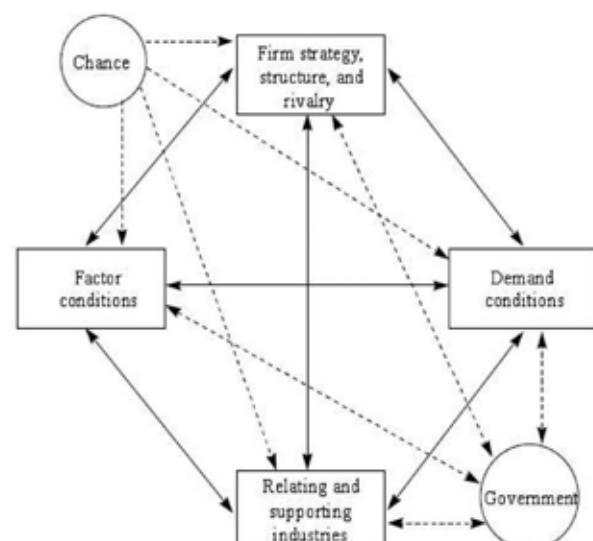


Figure 1 : Porter's diamond model of Cluster dynamics

The greater concentration leads to more intense competition, simultaneous investments and innovation in the cluster industries, and the opportunities for cooperation, which will influence firms' strategy, structure, and rivalry in the



competitive environment and increase pressures to innovate business processes.

Companies are attracted to the cluster and new firms are established in order to serve the needs of this larger concentration of companies, which enables the growth of smaller businesses, whose costs are lowered by this proximity, and the ability to outsource non-core activities. Thus, clustering enables the presence of advanced, specialized suppliers and others in related and supporting industries.

Lastly, these favourable demand conditions enable growth, and facilitate innovation, as sophisticated customers pose intense requirements and needs, which increase the competitiveness of the suppliers and enables entrepreneurship and start-ups.

Leader firms facilitate the growth and beneficial dynamics within a cluster. Such companies have the size, market position, resources, and the entrepreneurial orientation that contributes positively to the competitiveness of the cluster and its population. Leader firm behaviour includes, among others, acting as lead user by posing sophisticated demands and high standards to suppliers, improving transfer of knowledge and the organizational infrastructure, encouraging internationalization of partners, and improving the internal labour market.

So that's the underpinning theory

Let us analyse some prominent and highly successful maritime clusters of Europe.

## **Performance analysis of some European maritime clusters**

### **The Dutch Maritime Cluster**

The Dutch Maritime Cluster has eleven maritime sectors constituents – Seaports, Maritime Services, Shipbuilding, Maritime Supply industries, Water sports, Fisheries, Dredging, Offshore, Navy, Inland shipping and Seagoing shipping.

The funding is by member' contributions and its main function is to lobby for its members at various levels of government: local, regional, national and European level, either directly or as members of European and global association.

The 11 different yet complementary industries comprise 11850 companies that operate within a 100-kilometre radius. This encourages close co-operation on innovation and production, allowing industries to build on each other's strengths.

The government, academia and the private sector cooperate to implement long-term innovation programmes. Innovation is a prime responsibility of the entrepreneurs, but the government has created a number of generic instruments to stimulate innovative behaviour and the innovative capacity of people and companies.

From the life-cycle perspective, this cluster had the ability to re-invent itself and ignite newer phases of cluster dynamism in wake of changing circumstances in the shipping industry<sup>5</sup>.

### **The Norwegian Maritime Cluster**

Norway has 10% of the world merchant fleet, placing it in the top three world ranking, and carries out 15% of the global oil exploration activities in the near-shore. The main components of the Norwegian cluster are: Maritime Shipping, Marine Equipment Suppliers (mainly for the offshore oil

and natural gas); Maritime Services (finance, insurance, brokering, maritime law, classification and certification of ships, port services); Shipbuilding (specialized vessels for oil prospecting and exploration, highly sophisticated cruise ships, factory ships and fishing vessels, including equipment for propulsion and navigation, patrol boats, specialized vessels for the transportation of chemicals and liquefied natural gas, icebreaker vessels), and Fisheries.

All these sectors, especially those related to shipbuilding and equipment/marine machinery, are characterized by a strong R&D intensity, involving companies, universities and public R&D centres. Norwegian companies cooperate with other firms around R&D and the supplier-buyer cooperation to improve innovation is particularly strong.

The relationships between the industries in the same sector are strong and there are strong relationships between what is traditionally labelled as shipping (shipping companies, ship brokerage services, insurance, bank/finance, classification, consultants, other services) and the shipping supply industry (ship building, equipment, engines, wholesale)<sup>5</sup>.

## **Danish Maritime Cluster**

The strongest interdependency in the Danish Maritime Cluster is the socio-economic element, and education and a common labour market in particular.

The fact that maritime officers return to land after serving a certain period on ships, and take up employment in the shipping companies' land-based organisations and in the other maritime industries, is seen as an important driver for growth.

A number of maritime parties highlight the Danish Maritime Authority (which is the Government) as an important factor for increasing interaction and dynamics in the maritime cluster.

Innovation is also seen as an important driver for greater interaction. For many maritime enterprises, user-driven innovation is the dominant element. Here, it is the dialogue between suppliers and the customer that contributes to the development of processes and products. In other areas, emphasis is on research-driven innovation – where research is the focal point.

In 2005, the Danish Government established the Danish Maritime Trust Fund, which is intended to provide financial support for initiatives and measures that develop the maritime cluster – Blue Denmark. Research, development and innovation are key focus areas for the Trust Fund. The Trust Fund owns a number of shares in Danish Ship Finance, a private shipping finance company, and the dividends from these finance the Foundation's grants.

The aim of the work in cluster organisations like Blue Denmark is to focus on and develop dynamics in the cluster. The competitiveness of the individual industries depends on the other industries, along with links to universities, government authorities and business organisations<sup>6</sup>.

## **Economic significance of Maritime Clusters**

Hence we see that - At the heart of maritime cluster has been the pursuit of an enhanced awareness of the economic contribution of maritime-related sectors to a national or regional economy.

Four agglomeration economies are widely recognized of the cluster: a joint labour pool, a broad supplier and customer base, knowledge spill-over, and low transaction costs.

The total economic impact of maritime activities may be broken down into direct and indirect effects. Direct considers the economic activity and jobs generated directly by the cluster. Indirect effects include the jobs and demand created up and down the supply chain, as well as the consumption generated in the rest of the economy.

Thus, the value and demand generated in the clusters trickle down through the overall economy to create further jobs and demand, making the combined economic importance of an even greater nature than simply direct activities. This explains why firms increasingly locate in the cluster<sup>8</sup>.

## Enabling environment for Entrepreneurship and Start-ups

Clusters play a significant role in innovation.

The modern approach to innovation is less linear, emphasizing the benefits of 'open innovation' in dynamic, networked environments, where organizations and institutions in different levels of a cluster interact to combine knowledge to new products and processes.

Entrepreneurship and start-ups is a major driver of innovation, competitiveness and growth as they can have better presence in key sectors such as service and knowledge-based activities. Small businesses depend on entrepreneurs – the individuals who have the ideas and are willing to take risks necessary to get firms off the ground. Ideas need to be transferred into real innovation – a new economic activity that creates job and wealth.

Cluster environment enables promoting business incubators and growth of small innovative businesses with enabling cohesion policies among the actors that offsets risks.

Furthermore, clusters serve as important tool to improve the business environment particularly for SME's, entrepreneurs and start-ups as it facilitates change towards regional competitiveness by upgrading traditional economic activities through innovation and facilitating emergence of new products, processes and services which are competitive in the global market.

It builds on local strengths and helps create synergies between businesses and respond to market opportunities. Clusters help to 'glue' multinational companies and SMEs and root them to the region through favourable local collective competition goods created in cluster environment<sup>9</sup>.

Entrepreneurship is thus necessary to ensure that innovative ideas can be turned into new products and services that create growth, quality jobs and help address societal challenges.

It fosters a smart, sustainable and inclusive growth and must be flagged as strategic initiative.

A useful concept in this regard is the 'triple helix', which holds that innovation networks in clusters depends upon academic and research institutions (universities); companies, capital and entrepreneurship (private sector); as well as favourable framework conditions (public administration).

## EU Start-up and Scale-up Initiative

The European Union commits to provide entrepreneurs with favourable business environment through its cluster policies and smart specialization strategies as they help to take the geographic and thematic context into account in order to boost jobs, SME growth and investment. EU believes that implementation of these strategies promises to trigger industrial modernization process and create more productive, diversified and resilient economies. It should in particular contribute to providing SMEs – which are the backbone of economy - with better support and investment opportunities.

The EU10 has specifically focused on the development of Entrepreneurship and start-up by a 'Start-up and Scale-up' initiative. It seeks to achieve this by

- (a) helping them navigate the – often perceived – regulatory barriers to fully benefiting from the Single Market
- (b) by making it easier for them to have a second chance, without being stigmatised if their idea doesn't succeed the first time around, and
- (c) by improving access to funding by boosting private venture capital investment.

The Initiative brings together a range of existing and new actions to create a more coherent framework to allow start-ups to grow. The Initiative also puts emphasis on helping navigate regulatory requirements, improving innovation support and fostering ecosystems where start-ups can connect with potential partners such as investors, business partners, universities and research centres.

## Heterogeneity in Clusters and 'economies of scope'

It is important for clusters to consist of a critical mass of heterogeneous activities, in order to make the value of the cluster bigger than the sum of its parts, as well as enable increased specialization of companies.

By 'heterogeneous' is meant that cluster actors should be well distributed across vertical and horizontal dimensions, so that the different levels of the supply chain are represented, along with a number of activities horizontally within each sector.

While clusters reflect the specialisation of locations in specific economic activities, they capture two important additional aspects. First, clusters reflect specialisation in groups of related industries, not just one narrow activity. Much of the dynamism of clusters derives from these 'economies of scope' rather than static 'economies of scale'.

Clusters are thus much more a reflection of crossindustry linkages and 'related diversification' than of narrow specialisation.

Second, clusters reflect the dynamic interaction between a large number of firms. Specialisation through the presence of one large firm or plant does not constitute a cluster.

## Heterogeneity & life-cycle of a cluster

From the life cycle perspective - Clusters often seem to follow an s-shaped development path. After an (often long) phase of slow gestation a cluster reaches a size where 'cluster effects' set in and growth accelerates. Positive factors of increasing embeddedness and inter-relatedness generate increasing returns and stimulate rising economic performance.

This growth then becomes self-reinforcing; cluster effects reach their full scale and growth explodes.

Eventually, growth moderates - as the cluster reaches its market potential and 'congestion effects' become more relevant. Negative 'lock-in' with inflexibility and reduced innovation ability replaces the positivity.

Some clusters then manage to reinvent themselves, finding a new market or technology to ignite a next phase of cluster dynamisms. Others, however, get locked into existing technology and eventually shrink, as their markets disappear or other locations develop more dynamism.

It is really the heterogeneity of knowledge which is the foundation of cluster development. The cluster declines if its heterogeneity cannot be sustained. If the heterogeneity increases again, the cluster moves back in the cycle and enters a new growth stage. This increase in heterogeneity can be incremental, e.g., the integration of new knowledge from the respective technological trajectory into the cluster.

### **The Formation of Clusters and 'Cluster Organizations'**

Clusters are in the vast majority of cases not 'created': they emerge, because different locations provide different types of opportunities for specific companies to invest, succeed, and grow. Clusters are the result of a cumulative process, where the success of one company paves the way for others to follow.

Cluster evolution is a natural process, but it is not automatically a successful one. In most cases, success depends on creating specific qualities of a business environment that give a location a unique and lasting advantage. By helping to create these qualities, governments can have a significant influence on the emergence and growth of a cluster. The challenge is to invest in creating the kind of qualities that meet a market need.

'Cluster organisations' are organisational platforms set up to facilitate collective action within the cluster. Different organisational structures have emerged to play this role; some countries have created quasiprivate cluster organisations in the public sector that provide the cluster with 'one-stop' access to all relevant government programmes, and are reliant for their funding on their ability to mobilise private sector activities that provide cofunding.

There are basically two possible approaches for maritime cluster organizations as to the initiative to establish a cluster. This initiative can be categorized in government-induced organizations (top-down) and cluster organizations induced by leader firms and/or sector associations (bottom-up).

The main strength of top-down Maritime Cluster Organizations is that they are initiated by the Government and consequently aim to increase the growth of all maritime sectors within the Cluster. This growth is supported by a long term strategy and policy, focusing on the improvement of research, development and innovation and the creation of a level playing field through legislation within the Maritime Cluster. Through R&D intensity and legislation and relatively high budgets, top-down clusters can positively influence common interests.

The main strength of bottom-up Cluster Organizations is the enhancement of business efficiency and opportunities. This strength goes hand in hand with strong focus on finding

solutions for operational problems. Moreover, Cluster Organizations are structurally evaluated by their members with implications on membership contributions. Also there is the ability of the cluster to operate as a single-point-of-entry to the government initiatives. Bottom-up Cluster Organizations often take the lead in organizing events (e.g. to promote working in the Cluster) and in establishing issues platforms (e.g. to exchange best practices and lessons learned).

A weakness however, of bottom-up clusters concerns the differences in sector interests, sometimes leading to a difficult decision-making progress within the Cluster Organizations., Company and sector interests are often not balanced. This potential imbalance is sometimes caused by differences in the weight and influence of members or supporting companies and sectors within the Cluster Organizations. In particular, this imbalance is often caused by the strong impact of the largest contributing members in the decision-making process. Another weakness is that bottom-up Cluster Organizations are sometimes not always much focused on strategy and long-term growth of the sectors involved and on the cluster as a whole.

The main threat for Cluster Organizations is that the too narrow local focus may lead to the suboptimal functioning of a Maritime Cluster Organization. Also, the limited attention for the role of (relatively) smaller sectors and companies within the Maritime cluster poses a threat to the bottom-up Cluster Organizations. In terms of funding, there are differences in the organization and/or associations that financially contribute to the Cluster Organizations. Also, significant differences exist between the level of the budgets that top-down and bottom-up cluster organizations receive.

Top-down Maritime Cluster Organizations exist in Germany and Denmark. These two organizations fund their activities with government budgets. The budgets of top-down Maritime Cluster Organizations are far higher than those of bottom-up Maritime Cluster Organizations, because they include the overall budgets of the government administration and R&D and/or maritime education programs as well.

The main goal in establishing cluster organizations is the installation of a structure that provides clear solutions for cluster-issues (e.g. labour market, innovation, developing entrepreneurship and start-ups), regardless the initiator of that cluster organization. The main issues at the basis of the establishment of a Maritime Cluster Organization are to increase competitiveness, to promote maritime sectors, and to improve coordination within the cluster. Competitiveness on the cluster level can be measured by looking at the market shares, the growth of value added and the gross production of a cluster. The organizational structure of these organizations depends on a different climate and/or environment influenced by traditions, history, culture, governmental structure and driving sectors<sup>13</sup>.

### **Conclusions**

The main contribution of Porter's theory on dynamics of clusters has been interlinked advanced factors:

the very fertile factor conditions : inputs needed by firms – skilled labour, knowledge, research, infrastructure, capital

the favourable demand conditions: innovativeness, competition, leading to growth of entrepreneurship and start-ups

& the related and supportive environment of the industries and the government that form a differentiation framework.

Three main upgrading mechanisms are the sources of self-reinforcing growth of clusters: innovation pressures, knowledge diffusion, and complementarity.

Growth and establishments of new companies mainly start-ups and SMEs lead to a critical mass, which enhances synergies and the profitability of projects, and makes the cluster an even more attractive location.

Overall, institutional settings play a significant role in enabling competitiveness and expansion, retaining maritime activities, attracting companies, as well as increasing the level of innovation. This includes government policy, interest organizations, educational institutions, and research bodies. Cluster-based policy shifts the role of government towards building appropriate legislative frameworks for cooperation and growth.

Successful clusters reinforce and upgrade themselves, driven by the dynamic inter-relationships of cluster actors in terms of competition, cooperation, knowledge spill-over and innovation. The benefits of such concentration of activities are largely undisputed, as regions world-wide compete to provide the best framework conditions to attract and retain businesses, investments, and human resources.

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**Pioneering developments in India facilitated by MTRF as Knowledge Partner to Gujarat Maritime Board.**



Brainstorming Consultative session with the stakeholders in the presence of Cluster representatives of Norway, Netherlands, Dubai and Japan.



International Conference where in-principle approval of the State Government for the establishment of Gujarat Maritime Cluster was announced.

# NEWS from MASSA Academy, Chennai.



**National  
Maritime  
Foundation**

Principal, MASSA Academy Chennai invited to New Delhi for presentation at the Annual Maritime Power Conference of National Maritime Foundation.

Invited speakers were from Research disciplines from China, Bangladesh, Sri Lanka, Mauritius, Seychelles, Singapore besides India.

# Distinguished visitors to the MASSA Academy, Chennai.



Capt K Hatakeyam and Mr Kimura of Hato-Kai, Kobe, Japan (Japanese Seafarers Union) visited for exchanging the photographs of the “Beyond the Horizon” Exhibit at MASSA Academy, Chennai.

This exhibit is also installed in 16 different countries including at IMO headquarters in London and the World Maritime University at Malmo, Sweden.

The amateur photographs are taken by Japanese seafarers who visualise impressions of nature from the views of seafarers.



Dr (Engr) Rajoo Balaji, PhD

Head, Advanced Marine Engineering Department | Training & Education |  
MALAYSIAN MARITIME ACADEMY (ALAM)



Southampton  
**SOLENT**  
University

Prof Dr (Capt) S Bhattacharya

Director | School of Maritime Science  
and Engineering



## Courses at MASSA Academy, DNV·GL Chennai.



Pacific Manning Agency

DNV-GL's Revised ISO 9001:2015  
Course conducted in Feb 2017 for



DNV-GL's Internal Auditor for ISM/ISPS/MLC  
course conducted in-house for Synergy Group  
Superintendents in Chennai in Feb17.

## Not Before 2040

*As global warming melts sea ice across the Arctic, shipping routes once thought impossible — including directly over the North Pole — may open up by mid-century. The conclusion however is that high costs may keep the new routes from being used right away.*

*The amount of sea ice covering the Arctic Ocean has declined sharply each decade since the 1980s, according to measurements taken each September when the ice is at its minimum. Older, thicker ice is disappearing as well. Scientists say global warming is largely responsible for the changes. Parts of the Arctic are warming twice as fast as elsewhere.*

*The changing conditions offer an opening to shipping companies. The Arctic is potentially a faster, more direct route between Asia and ports in Europe and eastern North America.*

*Currently however there is relatively little cargo shipped through the region. Although shipping will increase over the next decade, especially as Russia develops oil and gas fields in Siberia, total Arctic cargo tonnage is expected to remain only a small fraction of the amount carried along southern routes through the Suez and Panama canals.*

*But with “middle of the road” warming — higher than the 2015 Paris accord target, but lower than the most extreme climate change forecasts — more Arctic shipping routes could open, both for ordinary ships and those that are built to move through thicker ice. Even direct over-the-pole routes would potentially be navigable, at least during some part of the summer-fall shipping season.*



**Capt Kamal Chadha**  
MD, Marex Media

*“We know what is likely to happen to sea ice,” said Nathanael Melia, one of the researchers at the University of Reading in Britain who calculated how the routes might change as warming continues to the middle of the century. “It will reduce decade on decade, and open up vast swaths of the Arctic Ocean.”*

*As Arctic routes become more direct, voyage times could fall to less than 3 weeks in some cases, as compared to almost 5 on most major routes today, making Arctic shipping potentially more attractive than the southern routes in the coming decades, Dr. Melia’s research shows.*

*But just because shippers could make greater use of Arctic routes does not necessarily mean they will. Ice conditions will still vary greatly from year to year, which would discourage shipping companies for whom precise timing of shipments is fairly crucial.*

*Other costs including higher insurance rates, as well as safety considerations, may deter efforts.*

*A report last year by the Copenhagen Business School concluded that trans-Arctic shipping by ordinary vessels between Europe and Asia was unlikely to become economically viable before 2040.*

*Have a nice week.*





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MEO Class I - Preparatory Course	1 <sup>st</sup> Jan, 1 <sup>st</sup> Mar, 1 <sup>st</sup> May 2017
MEO Class II - Preparatory Course	1 <sup>st</sup> of every month
2nd Mates (FG) Function Course	15 <sup>th</sup> Feb, 15 <sup>th</sup> June, 15 <sup>th</sup> Oct 2017
Chief Mate (FG) - Phase I Course	15 <sup>th</sup> Dec 2016, 15 <sup>th</sup> Mar, 15 <sup>th</sup> June 2017
Chief Mate (FG) - Phase II Course	15 <sup>th</sup> Jan, 15 <sup>th</sup> Apr, 15 <sup>th</sup> July 2017
Advanced Shipboard Management Course	1 <sup>st</sup> Jan, 1 <sup>st</sup> Mar, 1 <sup>st</sup> May 2017

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