THE WORLD'S AGEING CABLE FLEET

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Abstract: The burst of the "dot-com" bubble has resulted in a cable ship fleet growing steadily older with several cable ships now pushing the 30 years limit and beyond. This paper looks at how the cable ship fleet for installation and maintenance has evolved since 2000 and gives a view on how the fleet may develop going forward.

In particular this paper examines:

- The evolution in age and age distribution of ships used in the installation market and in the maintenance market.
- The medium to long-term impact of the current lack of investment in new tonnage considering the 2½ - 3 year lead-time for a new ship from planning to delivery.
- Potential short falls and possible ways to mitigate the problems.

1 INTRODUCTION

The age distribution, age development and number of animals in herd can reveal much about the healthiness of the animals and their general living conditions. Likewise, the age distribution, age development and size of the cable ship fleet can reveal much about the healthiness of that particular part of the industry, and about the market environment for that part of the submarine cable industry.

2 EVOLUTION OF THE CABLE SHIP FLEET SINCE 2000

In the late 1990's the exploding demand for installation of submarine cables led to numerous ships being converted to cable ships and orders being placed for new builds. This resulted in the cable ship fleet reaching its maximum size of 83 ships at end of 2002/early 2003.

Even though the submarine cable industry collapsed at the end of 2000 all cable ships were fully utilised in the telecom market until the end of 2002 due to the backlog of installation work From 2003 the total cable ship fleet started to reduce in size and part of it was re-deployed in alternative markets.

The fleet size was projected to reduce in size by "natural" exit (scrapping) of older tonnage, reaching a size of approximately 50 ships by end 2012 with 26 – 27 ships (estimated to be the absolute minimum fleet size capable of providing a sustainable service to the telecom market) engaged in the telecom market and the remaining part engaged in alternative markets.

As the submarine cable industry started to pick up in 2006 the utilisation of cable ships in the telecom market increased and the natural exit process stopped, thereby stabilising the cable ship fleet size at 65 ships in total. Of these, the number of cable ships active in the telecom market sank to its lowest in early 2008 with 37 active ships, rising slightly to 40 active ships by end 2009/early 2010. The

evolution of the cable fleet over the period 2000-2010 is shown in Figure 1.

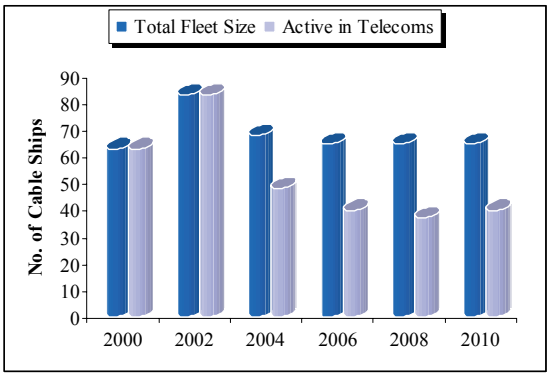

Figure 1 : Evolution of Cable Ship Fleet

3 CHANGES IN UTILISATION

The reaction of cable ship owners to the collapse of the telecom cable installation market was to seek alternative business. Initially marine contractors tried to employ their cable ships for other works while doing as little as possible in terms of modifications and/or conversions to other uses. Conversions are costly and time consuming, and are not that easily reversible without spending an equal amount of money and time. Therefore owners tried to place many cable ships in the maintenance market, while some of the most flexible ships were re-deployed to the off-shore petroleum markets. Initially this was done without making any major modifications to the ships, but as the telecom market stayed low for some years, some ships were eventually substantially modified.

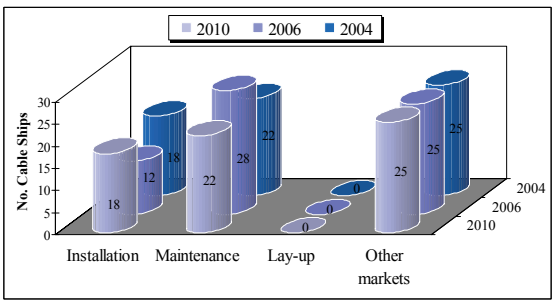

Figure 2 : Evolution of Cable Ship Utilisation

As can be seen in Figure 2, several cable ships were re-deployed to the maintenance segment during the telecom cable downturn, but as a result of oversupply in this sector revenues decreased and the business was not sustainable for many of the ships. When the installation market started to pick up again, the more capable cable ships started to be taken out of the maintenance segment to address the increasing installation market.

The maintenance market now seems to be almost in a state of equilibrium with a reasonably good match between the number of cable ships in the maintenance market, the number of lit cable kilometres to be served and the average number of cable faults per year (which seems to be steady) in the world. The geographical distribution of cable ships may not yet be ideal as some cable ships are heavily utilised whereas others have less to do. Some geographical areas are well served with several cable ships to choose from while in other areas there is somewhat less choice. To some extent this is caused by tradition and history, and has proven difficult to change. Our evaluation of the current cable maintenance market is that 18 – 19 ships could provide a reasonable service level for cable maintenance world wide, i.e. slightly less than today's cable maintenance fleet.

4 CABLE SHIP AGE DEVELOPMENT AND DISTRIBUTION

The last "new build" came out of the shipyard early 2003, but the decision to build this ship was taken in 1999/2000 given the normal time of 2½ - 3 years for the planning and construction of a cable ship.

Given that there currently are no plans in the market for new ships, there will be a minimum of a 10 year period with no "new builds" joining the current cable ship fleet. This period may even be longer as it's unlikely that any new building plans will materialise in the next couple of years.

This means that the age of the cable ship fleet is steadily increasing. As shown

below in Figure 3, the average age in 2010 is 16.1 years, while the average age of all shipping is approximately 12.5 years, and there are no signs of this getting any better in a foreseeable future.

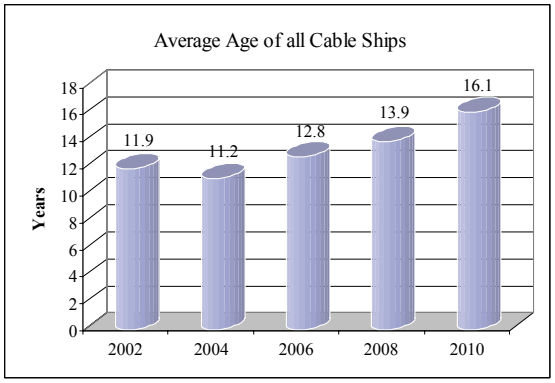

Figure 3 : Evolution of Average Cable Ship Age 2002 - 2010

It is also important to analyse the difference in average cable ship age as a function of the current utilisation of the cable ships.

As noted earlier some of the most modern and flexible cable ships left the telecom market during the telecom cable downturn to seek alternative revenues mainly in the off-shore petroleum market. The removal of these ships from the age calculation brings the actual average age of the cable ships active in the telecom market up to 18 years in 2010.

A closer look at the two individual segments of the telecom cable market (installation and maintenance) reveals that the average cable ship age is higher for the maintenance activity and is increasing, since some of the newer and more capable ships have been re-deployed from maintenance to installation in recent years. (Refer to Figure 4 below.)

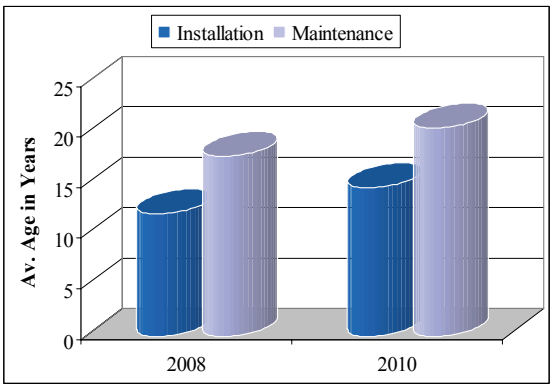

Figure 4 : Development of Average Age for Active Cable Ships

As well as looking at the average cable ship age in the telecom market, it's also necessary to look at the age distribution to see whether there are any imminent "casualties" and where these may occur. This distribution is shown in Figure 5 below. (Note that 2 of the vessels are entered as 50% for each segment.)

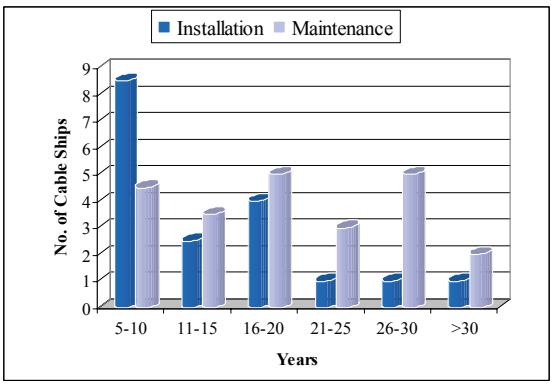

Figure 5 : Age Distribution of Cable Installation and Maintenance Ships

With 9 vessels currently having an age of > 25 years (7 maintenance and 2 installation), replacement or restructuring will logically become a requirement within a few years.

So what does this mean to the submarine cable industry? So far, not a lot. No specific age can be defined as the "end of life" for a cable ship since that will depend on how well the ship was originally designed and built, how well it has been maintained and how it has been used. However, it's a well known fact that older cable ships are less capable than newer ships and therefore are more likely built to

a lower specification than newer ships in certain conditions.

Although the cable ship fleet in general is well maintained and is in a better shape than ships in general, older cable ships may not perform 100 % to their original specifications and may not be as reliable as younger ones. Therefore as the cable ship fleet ages, there is a real risk that operations become less safe and more unreliable.

As the maintenance sector has the oldest cable ships (with a higher number of older ships) and the age here is increasing faster than for the rest of the cable ship market, problems are most likely to occur in this market segment first.

5 POTENTIAL WAYS FORWARD

As there are no signs of "new builds" coming into the cable ship market for a foreseeable future, the industry will have to make do with what it has.

As can be seen from Figure 1, the total number of cable ships in the world seems quite sufficient for the total market needs, and in theory that could be the case for some time ahead. The average age of cable ships could even be decreased without adding any "new builds" if older tonnage were to be scrapped.

There are two "reserves" that could be brought into action.

Plan A

There is an "unused" reserve of more than 20 cable ships in the working in alternative markets. Many of these ships are both more capable and newer than the average ships currently in the telecom market. The problem is that many of these ships have undergone serious modifications which will need to be reverted before coming back into the telecom market

Therefore this will only happen if market conditions (i.e. revenues) are attractive enough and better than the current revenues in the alternative markets. Consequently customers for telecom cable maintenance will have to pay more than the current prices for the services provided - and possibly considerably more if major ship modifications are to be justified.

Plan B

Even though both the installation ships as well as the maintenance ships seem to have been quite busy recently, an unused reserve could be exploited if things were planned in a bigger scheme and the involved parties were willing to be more flexible.

Currently installation ships often have some slack time between projects or even during a project for parts of the installation not on the critical path for that project. In theory such slack time could allow these ships to assist with cable repairs.

Swapping of installation works could also free up some resources as suppliers /contractors sometimes have to move ships from one ocean to another to undertake their own work even though a competitor may already have idle capacity in the same ocean and vice versa. Customers may see this as being controversial, anti-competitive and a way for the suppliers/contractors to corner the market – but in fact it is the customers who pay that in the end for a less efficient utilisation of the cable ships.

Likewise, maintenance ships have periods with idle time, especially where multiple ships serve a specific area. This unused reserve may be used for some installation work without reducing the maintenance service level and response times dramatically.

This could be improved by having strategic spares or even better universal spares (if/when these become available) permanently stored on board the ships.

Our evaluation indicates that the telecom market could be served in normal years with as few as 26-27 ships, and in any case with less than the 40 ships currently active in the telecoms market.

The benefit of Plan B compared to Plan A is that it doesn't need to cost the customers anything – it might even reduce prices as the revenue per ship should improve through the better utilisation.

Plan B will not be easy to implement as it needs to involve many parties but failure to do so will automatically lead to something looking like Plan A.

Most businesses leave supply and demand problems to be resolved by market forces and this may eventually work here as well. However, the marine services part of the submarine cable industry is a very small market and in the interim this could expose customers in some geographical areas to a lack of service particularly for maintenance services.

6 EMISSION CONTROL AND GREENHOUSE GASES

Ships (including cable ships) mainly operate at sea far away from the eyes of the public and therefore there has been less focus up till now on their contribution to the global pollution and green house gases than for any equivalent land based industry. Measures have been introduced to reduce emissions from ships but as most cable ships tend to use lighter grades of fuel than the shipping industry in general these have had little impact on the cable ship business so far. However IMO (International Maritime Organisation, an agency of the UN) is working on introducing stricter rules for ship emissions and even though the recent UN Climate Change Conference in Copenhagen (COP15) failed to set any binding targets for the reduction of green house gases, this is likely to have an impact on the cable ship industry in a not too distant future since it was expected that COP15 would produce equal requirements for ships and land based industry.

Given the age of many cable ships, such requirements could lead to the need for severe and costly modifications and for some ships this may not be possible, resulting in obsolescence. Under normal circumstances when the IMO implements stricter rules and regulations there is a long transition period so that the impact in terms of cost to modify existing tonnage is kept at a reasonable level, taking into account the remaining lifetime of this tonnage. However, reduction of green house gas emissions has become quite a political issue, so the pressure to show results could lead to a reduced transition period, and if so the scrapping of older tonnage may be the only real effective measure for shipping in order to meet the expected future requirements for "cleaner" ships.

The unknown nature of future emission control requirements, in terms of what, when and how these may be applied, makes this issue a potential time bomb to the industry.

7 CONCLUSION

The cable ship industry is facing some tough challenges in the future. Failure to take the right corrective measures in due time could result in high prices and potential shortages of ships for extended periods.

Setting aside the unknown impact of potentially stricter emission controls on cable ships, potential future problems arising from an ageing cable ship fleet could be mitigated to some extent by the willingness of marine services contractors and customers to see the maintenance and the installation segments as a more integrated market operating in a more flexible way. This would enable existing cable ship resources to be used more effectively, and would be a way to bridge the gap to the time when the market conditions are sufficiently attractive for marine services contractors to invest in new resources.

Disclaimer:

All calculations have been made based on the ASN internal database of the world fleet of cable ships. It only contains the ships relevant for ASN to track, therefore may not be 100% complete.