

# A NEW ERA FOR SUBMARINE NETWORKS

Opportunities and Challenges



**SUBMARINE  
NETWORKS**

EUROPE 2018

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# Introduction

Over the past couple of years there has been a huge resurgence in the global subsea cable industry and the picture compared to a decade ago is very different.

An increasing demand for higher capacity, reliability, flexibility, security and lower latency is driving the evolution of the industry. Similarly with new players entering the market and exciting new technologies being developed and deployed, this marks a very interesting time for the subsea community.

The following articles explore the opportunities and challenges presented by this new reality.

Enjoy!

## About Submarine Networks Europe

Submarine Networks World celebrated its 20<sup>th</sup> anniversary in Asia in 2017 and now at a crucial time for the industry, we feel that it's time for the EMEA region to have its own unique meeting place. With this in mind, we are pleased to present Submarine Networks Europe 2018.

After a period of relative calm, the EMEA region is now seeing much more activity and so this event will be exploring the global issues affecting the industry with a particular focus on EMEA.

The conference will be commercially focused and content driven providing senior level stakeholders with the opportunity to discuss strategy and innovation, exchange knowledge, hear about cable project updates and nurture new and existing partnerships.



# We must build a strong business case for subsea investment

Interview with Mattias Fridström, Chief Evangelist and Vice President, Telia Carrier

Despite a surge in demand for capacity across the globe, sky high capex commitments are making operators think twice about laying new cables

With the Submarine Networks Europe 2018 event just around the corner, Total Telecom spoke with Mattias Fridström, chief evangelist and vice president at global wholesale carrier, **Telia Carrier**, to discuss the key issues affecting the subsea telecoms cabling industry.

## What challenges are operators facing in the subsea sector today?

There is absolutely a need for new cables as traffic is still growing at a relative high pace. The big challenge is still to build a good business case around these investments. Prices in the market for subsea capacity falls every year and even though new systems transport more capacity per fibre pair than they did yesterday, the cost to install them is still very significant. The return on the investment is quite long thus building on speculation is not an option anymore. You need to have a clear view of who your customers will be and exactly they need.

## What new technologies are coming to the market to help keep costs down?

The subsea sector has always been very good at mixing equipment from different vendors, thus keeping the cost down while still being able to upgrade older systems with significant amount of capacity. This has really helped the carrier industry as with limited new cash resources significant upgrades have been achieved.

New modulation formats in new boxes will obviously also help the industry keeping the cost per Mb down to levels where the market can accept them.

### **Which new markets are looking particularly interesting to you at the moment?**

Any market with growth is of course of interest but with a significant amount of new subsea cables installed towards South America I must say that area is of big interest. The underlying need for more capacity seems to grow at a significant pace and the need to access the global internet is a big need for most local providers in the area.

Africa will always be interesting but still high prices prevent us from doing major actions on that continent.

### **What challenges do these markets pose and how do you plan to overcome them?**

One challenge is still the relative quite high price for connectivity in these markets. It holds the traffic growth back quite a bit. This will most likely be overcome over time as we have seen the same pattern on all markets - in the end prices usually comes down to what they are in central Europe and North America. That's when the real traffic growth will come.

### **What are you looking forward to most about the Submarine Networks Europe event?**

Every time the industry meets new topics and challenges come up, new business models are discussed and new projects are being looked at. Every time I go, I feel that there couldn't possibly be anything new this time, but every time I am surprised. There are many things you would never have heard about unless you have been to the event. It gives me a lot of new ideas for where to go next and what projects to find out more about. These are all the things I very much look forward to and why these events still have such a relevance.

*Mattias Fridström will be speaking at the Submarine Networks Europe 2018 event in London. From the 20-21 February 2018, the event will analyze every aspect of the subsea cabling industry, with a lively conference agenda and round table sessions.*



# Should Britain be doing more to protect its subsea networks?

A Review by Chris Kelly

Britain's chief of defence has highlighted the UK's subsea telecommunications infrastructure as a key potential target for terrorists and hostile states, but some industry experts believe that these fears are being overplayed

The UK must do more to defend its subsea telecommunication networks from international espionage and attack, according to Britain's chief of defence.

## Vulnerability of the subsea cables

"There is a new risk to our way of life, which is the vulnerability of the subsea cables that criss-cross the sea beds," said air chief marshal Sir Stuart Perch in a speech given to the Royal United Services Institute defence think tank.

Perch said that an attack on Britain's subsea networks would "immediately, and potentially catastrophically, affect our economy and way of life".

Perch singled out Russia as the potential source of the attack, adding that the UK must work with its allies to develop its maritime forces and "match and understand Russian fleet modernisation."

"Russia continues to perfect both unconventional capabilities and information warfare... In response to the threat posed by the modernisation of the Russian navy, both nuclear and conventional submarines and ships, we along with our Atlantic allies have prioritised missions and tasks to protect the sea lines of communication," he said.

## Private Ownership

According to a recent report compiled by the Policy Exchange think tank, a potential problem with securing subsea networks is that the vast majority of the world's 213 independent cable systems are privately, rather than state, owned. This can create ambiguity over who is responsible for securing the network, leaving the door open for would be attackers.

The report identifies subsea cables as "essential to our modern life and digital economy," yet it warns that they are "inadequately protected and highly vulnerable to attack from both hostile states and terrorists."

The European Subsea Cables Association (ESCA) has issued a statement saying that while it welcomes the recognition of subsea cables as critical national infrastructure, it disagrees with some of the report's key findings.

"The ESCA welcomes the demand for greater protection of cables in law and the acknowledgement that subsea cables are critical national and global infrastructure. ESCA notes there are some inaccuracies and misunderstandings in the report, about which it has some concerns and would have welcomed the opportunity to provide input into the report prior to its publication. ESCA's members have taken, and continue to take, the security and protection of their assets seriously," it said.



*Article continues on the next page.*

## Scare mongering or legitimate threat?

So, is this a case of scare mongering by the British Armed Forces, perhaps aimed at securing additional funding from the government, or is there a legitimate concern that Britain's subsea networks could be under imminent threat?

Whether a credible threat exists or not is a question for the UK security forces alone. However, by raising this issue publicly, the UK chief of defence has shone a spotlight on the issue of security across the telecoms sector and prompted the questions: could we do more to secure our networks and who is ultimately responsible for securing them?

With an estimated \$10 trillion of transactions crossing the global subsea networks every day, it is not hard to imagine the potential carnage that would ensue were they to come under attack.

From an economic point of view, the result would be cataclysmic. How would the city of London's financial sector cope if it were cut off from the rest of the world? Financial markets would suffer an almost unprecedented hit were they to be left truly isolated from the international community. While companies have invested heavily to ensure the safety and security of their cable networks, the UK defence chief's comments raise concern over a new generation of potential attacks.

*The European Subsea Cables Association chairman, Peter Jamieson, will be chairing a round table on 'Addressing the security risks and protecting our subsea cable infrastructure' at the forthcoming Submarine Networks Europe event, in London.*

*During the session, Jamieson will look at a variety of new and innovative strategies that are helping the subsea community stay one step ahead of the would-be saboteurs.*



# Subsea operators must get to grips with new market conditions to realise growth potential

Interview with Pekka Joensuu, executive advisor at Cinia Group

A surge in demand for connectivity between Europe and Asia is fuelling growth in the submarine network sector, but carriers account for a smaller proportion of traffic.

The subsea cable sector is enjoying a period of protracted expansion, with the industry set to grow by a compound annual growth rate (CAGR) of 5.75% between now and 2020, according to a recent report published by Research and Markets.

However, operators in the sector need to re-evaluate their existing business strategies if they are to take advantage of developing market trends. Speaking to Total Telecom, **Jukka-Pekka Joensuu**, Executive Advisor at **Cinia Group**, said that the industry was facing a range of challenges, including funding and market dynamics.

"It used to be the case that this industry was very carrier led but with the new systems you have a situation where only 30% of the traffic is actually carrier generated. That means that the traditional business models are changing," he said.

Understanding the changing dynamics of the market and being able to put in place the cash flows needed for their successful operation will be critical.

"You have to figure out a way to have the right customer structure in order to have a sustainable business case," Joensuu explained.



### Surge in demand

The surge in demand for subsea data cabling systems has been driven by two distinct factors.

"Firstly, for the past five or six years it has been driven by the emergence of big data. Secondly it has been driven by the growth and profitability of the over the top (OTT) providers. They have been able to lead the development," he explained.

### Growth in Asia

Cinia Group is currently working on its Arctic Connect project – a subsea cabling system that will connect Finland and the Nordic countries with strategic business hubs in Europe and Asia.

"We will have direct links between London, Amsterdam, Frankfurt, Shanghai and Tokyo," Joensuu said.

The Arctic Connect project will boast 100 Tbps of capacity over that route, and will build on Cinia's existing Sea Lion network, which connects Finland with mainland Europe.

The project is expected to be complete in 2021-2022 and will address increased demand for capacity in the Asia-Europe route.

"What I see in the very near future is that Asia will continue to grow very, very quickly. We need to think about how we can answer that challenge. You need to put the infrastructure in place to be able to do business with the Far East," he said.

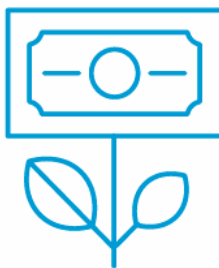
*Jukka-Pekka Joensuu will take part in a panel session at the forthcoming Submarine Networks Europe 2018 event, in London. The session will address the key challenges and opportunities surrounding the acquisition of finance in the subsea cabling sector and look at ways of balancing investment and returns in such a fast growing market.*

# Three Key Challenges

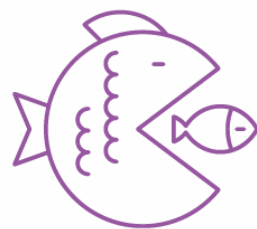
## We Will Discuss At Submarine Networks Europe



**New drivers of demand:** New business drivers such as cloud computing, content delivery and data centres are driving and changing the subsea cable industry, which is working to meet and support bandwidth demands by building new cables and upgrading existing networks. How can new technologies be deployed to improve network efficiency and which are the most cost effective innovations? What does the emergence of new key players mean for the industry? How can carriers and cable owners optimise network routes?



**Finance:** Good financial planning is key to the success of a cable and yet can also be one of the most challenging aspects of a new project. Developing a business plan which addresses effective funding of new projects and upgrades, how to minimise risk due to delays and regulation, and how to maximise return on investment is crucial. Assessing emerging markets also remains a top priority for submarine cable investors.



**Regulation:** The marine environment is becoming increasingly crowded and with this development comes new regulatory challenges. Competition with other industries, environment regulation and regulating new players are all issues which the subsea cable industry is looking to address. Similarly, in an increasingly connected world, cybersecurity is becoming more of a challenge than ever before.

# Attending Submarine Networks Europe

Taking place 20 – 21 February in London, Submarine Networks Europe will bring together 250+ senior decision makers from across the subsea cable industry to discuss:

- Changes to business models and partnerships
- The rise of the OTT players
- The technologies that are changing the industry
- Investment strategies for new and existing cable projects
- The regulatory challenges of an evolving industry

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