



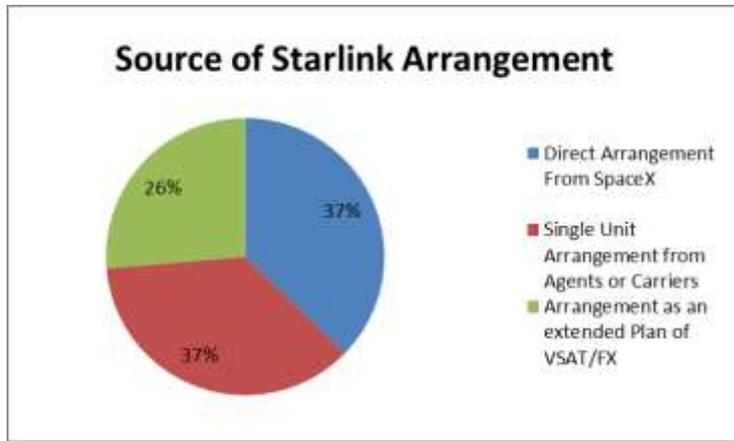
**Report on Starlink Implementation Status**

As of May 2024, ORCA has connected Starlink to over 100 vessels. Herewith we have compiled statistics at the point when Starlink installation reached 100 vessels.

Population of Statistics:

The population consists of 100 vessels equipped with our ORiON Plus that have connected Starlink to their onboard network.

**1. Source of Starlink Arrangement**



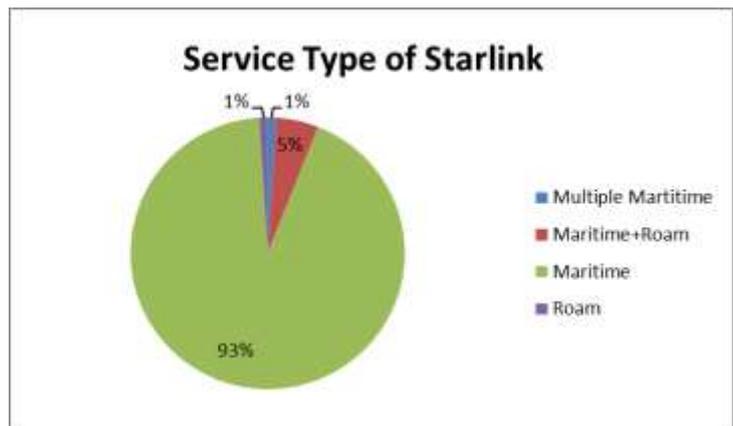
37% of the vessels arranged Starlink directly from SpaceX, while another 37% arranged from agents or carriers in the form of single unit purchase. That is to say a total of 74% vessels are having Starlink connected to ORiON Plus (or ORiON L3).

Below is a brief summary of the advantages and disadvantages of each source.

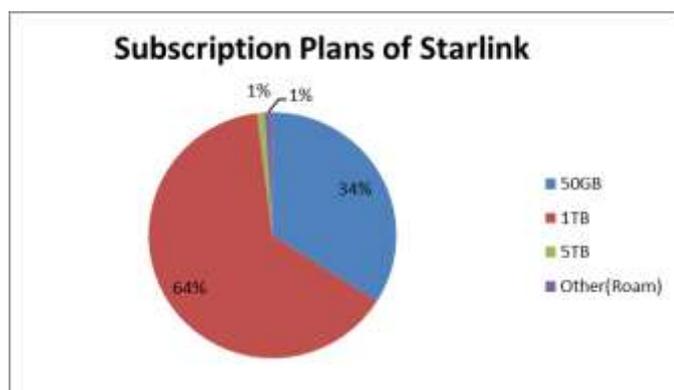
	Advantage	disadvantage
Direct Arrangement from SpaceX	Most cost-effective	Payment by credit card
Single Unit Arrangement from Agents or Carriers	Payment on invoice is possible	More expensive than direct arrangement from Space X
Arrangement as an extended Plan of VSAT/FX	Total support from carriers	More expensive than direct arrangement from Space X.

**2. Service Types of Starlink**

Most vessels are equipped with Starlink Maritime, but there are also cases where vessels are loaded with a combination of Starlink Maritime + Starlink Roam, or with multiple Starlink services. The number of such multi-loading vessels is expected to increase in the future.



### 3. Subscription Plans of Starlink



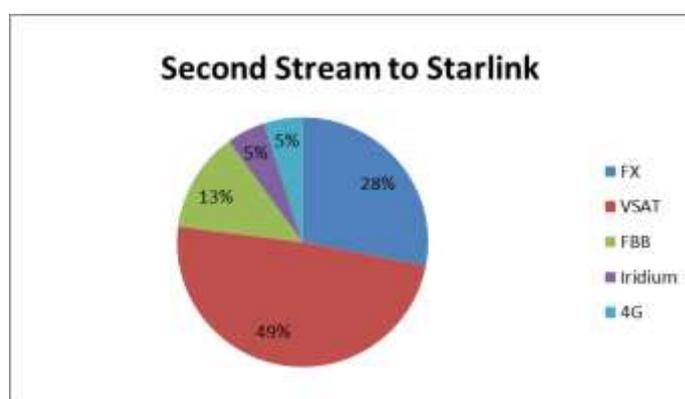
34% of the vessels subscribe to the 50GB plan, while the other 64% with the use of 1TB plan.

Vessels aiming to keep communication costs low as a substitute for VSAT tend to use the 50GB plan, while those considering the development of DX with Starlink tend to choose the 1TB plan.

### 4. Secondary Stream to Starlink

77% of the vessels use VSAT or FX as a secondary communication stream to Starlink. This is likely due to concerns about operating in the areas where Starlink is unavailable, such as China.

On the other hand, vessels considering the backup communication sufficient as long as email can go through tend to use FBB or Certus instead of VSAT.



### 5. Summary

For vessels whose onboard networks are built with our ORiON Plus, there is a high level of flexibility in communication infrastructure configuration, allowing more combination possibilities of Starlink, the existing satellite communications, and the 4G/5G WiFi. In addition, multiple connections of the same type of service (e.g., installation with multiple Starlink services) also enable more advanced communication control.

We offer optimal network configuration tailored to each company's needs, therefore please feel free to contact us.

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