

# Thuraya and IEC Telecom provide vital satellite communication to Kazakhstan Agency of Applied Ecology (KAPE) to protect the ecosystem of the Caspian Sea

**Case Study:**

*Thuraya Orion IP*

**Products:**

*Thuraya Orion IP*

*Thuraya SF2500*

**Location:**

*Caspian Sea, Kazakhstan*



*"We operate across the entire Kazakhstan territory, but we pay special attention to our work in the Caspian Sea, which is particularly vulnerable to artificial impact."*

*- Fedor Klimov,  
Production Director  
of KAPE*



Thuraya is helping to protect the unique and fragile ecosystem of the largest salt lake on Earth through its work with Kazakhstan Agency of Applied Ecology (KAPE) and IEC Telecom.

The Caspian Sea is a transport hub for five states. Its hydrocarbon endowment and biological resources don't have any analogs in the world. The Caspian Sea is also unique, because of its relict flora and fauna, including sturgeon, which is preserved till present days. Through the territory of the Northern Caspian lays the biggest migration route of Afro-Eurasian birds. During the seasonal migration about 50,000-60,000 of flamingos could be found here.

Reflecting these facts, countries that border the Caspian Sea have committed to maintaining a careful balance between fostering commercial interests and protecting the Sea's delicate ecology. Such organizations as KAPE serve this noble purpose. KAPE was set up in 1996. Throughout 22 years, the organization has grown to become the largest independent consulting company in the fields of environmental protection, monitoring

and management of natural resources in Central Asia. The main activities of the organization are monitoring of the environment condition (water, air, biome), assessing the impact of industrial enterprises, developing and implementing projects and programs in more than 20 thematic areas. Since then, the company has completed more than 550 projects for public and private sector clients.

Fedor Klimov, Production Director of KAPE, says: "We operate across the entire Kazakhstan territory, but we pay special attention to our work in the Caspian Sea, which is particularly vulnerable to artificial impact."

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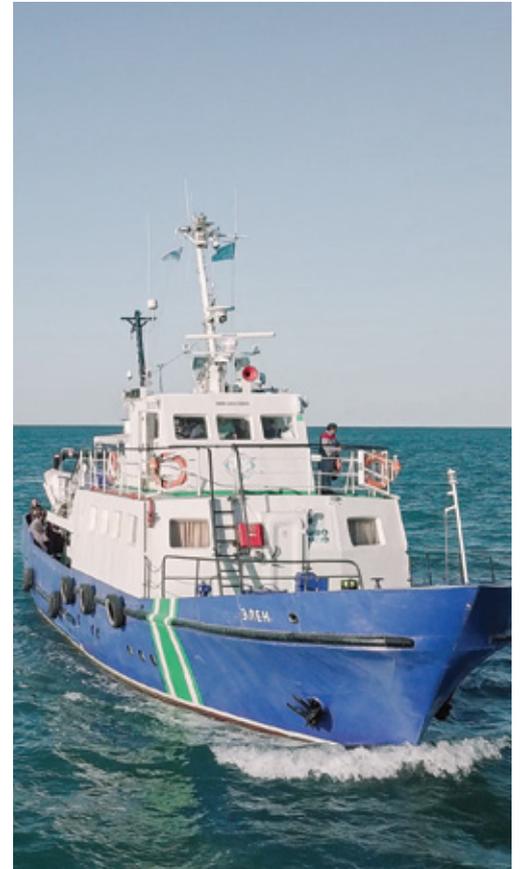
*KAPE first tested Thuraya maritime satellite solutions in 2014. Within just a few months, the company had come to rely on Thuraya for all its project work in the Caspian Sea and had signed a long-term agreement with national service provider IEC Telecom.*

*Today, all vessels in KAPE's fleet operate on the Thuraya Orion Edge solution by IEC Telecom. Thuraya Orion Edge is powered by the Thuraya Orion IP maritime broadband terminal and enhanced by a set of value-add services from IEC Telecom.*

KAPE's vessels range widely across the Caspian Sea. In the past, it was not always possible to guarantee regular communication between its vessels and onshore team. The company could not depend on radio and GSM networks because they were unreliable at sea. Moreover, the appearance of new technologies required broadband data access. So, satellite communication was the only way to fulfill these communicational issues.

When searching for a step-change in the communications capability of its vessels, KAPE first tested Thuraya maritime satellite solutions in 2014. Within just a few months, the company had come to rely on Thuraya for all its project work in the Caspian Sea and had signed a long-term agreement with national service provider IEC Telecom.

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*KAPE deploys its vessels Alina, Nautilus one and Elen to check on fish stocks and measure the potential impact of industrial activity in Kazakhstan's area of the Caspian Sea. It reports daily so that remedial action can be taken immediately if needed.*



### Vital communications for scientific work

KAPE's scientific work in the Caspian Sea involves daily communication with clients and technical experts onshore via Thuraya, provided by IEC Telecom. Projects generate a huge amount of raw data that has to be processed and analyzed to generate usable scientific findings. An average client project involves the transfer via satellite of 30GB to 50GB from ship to shore each month.

Much of KAPE's work is time critical, so fast data links to shore are essential. For example, every spring, summer and autumn the company undertakes environmental surveys for the Kazakhstan Ministry of Agriculture. KAPE deploys its vessels Alina, Nautilus-1 and Helen to check on fish stocks and measure the

potential impact of industrial activity in Kazakhstan's area of the Caspian Sea. It reports daily so that remedial action can be taken immediately if needed.

The North Caspian Operating Company (NCOC) works on the North Caspian Project, the first major offshore oil and gas deposits development project in Kazakhstan. The project covers the development of five fields. In the spring of 2017, the North Caspian Operating Company (NCOC) authorized KAPE to monitor its production processes, such as construction of offshore industrial facilities, drilling wells and laying long-distance pipelines in the Caspian Sea water area. KAPE specialists monitor air quality, water, sediments and production waste during the building and production of oil infrastructure.



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*"Thuraya Orion Edge is a crucial factor in our ability to conduct work successfully". "The fast data transfer enables us to keep our clients updated on progress every day and to receive new instructions in a timely way".*

**- Fedor Klimov,**  
Production Director  
of KAPE

*"The small size of Thuraya terminals makes them easy to install even on small ships and boats, which is a big advantage for our work."*

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During the magnetometric and bathymetric surveys at the site of the future construction of the North Caspian Marine Channel, KAPE specialists had to send large amounts of information to the engineering department of Gravity and Van-Oord companies for the subcontractors Tengizchevroil for the design of construction works.

"Thuraya Orion Edge is a crucial factor in our ability to conduct this type of work successfully," says Fedor Klimov. "The fast data transfer enables us to keep our clients updated on progress every day and to receive new instructions in a timely way. Satellite connectivity in open sea is vitally important for receiving and sending documentation related to our monitoring of production processes and the environment. The small size of Thuraya terminals makes them easy to install even on small ships and boats, which is a big advantage for our work."

### Operational efficiency

Thuraya services have greatly enhanced the speed and efficiency of KAPE's operations. They guarantee 24/7 broadband connectivity and enable KAPE teams to access head office systems at any time via virtual private network.

KAPE's teams and vessels have to operate with optimal efficiency in order to satisfy client requirements and stay within budget. Disruption from bad weather or other unforeseen problems might cause delays or incur additional project costs, so it is essential that crews are able to access weather forecasts and other operational information at any time. Thuraya Orion Edge enables vessels and crews to anticipate and head off potential problems by regularly downloading the latest weather data and updates for navigational charts.

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*“Thuraya is great for keeping in touch. Any crew member with a modern mobile phone can use the service to communicate with friends and family during his or her free time. The vessel is supplied with a router, which provides everyone on the vessel with an internet connection.”*

*- Andrey Leonov,  
Second Engineer*

## About KAPE

The Kazakhstan Agency of Applied Ecology (KAPE) is the region’s largest independent consulting company in the field of environmental protection, monitoring and management of natural resources. It uses its expertise in environmental monitoring and management to help clients identify and address organizational and operational issues. KAPE has branches in Astana, Tbilisi, Atyrau, Aktau and Aktobe. The company employs 250 people, including nine PhDs and two academicians.

Guaranteed voice communications are also vital to KAPE’s work. Its crews use the Thuraya SF2500 satellite terminal to stay in touch with management on shore to discuss operational priorities and to contact port authorities. Thuraya SF2500 is also essential as a safety back-up to enable urgent communication in the event of an emergency at sea.

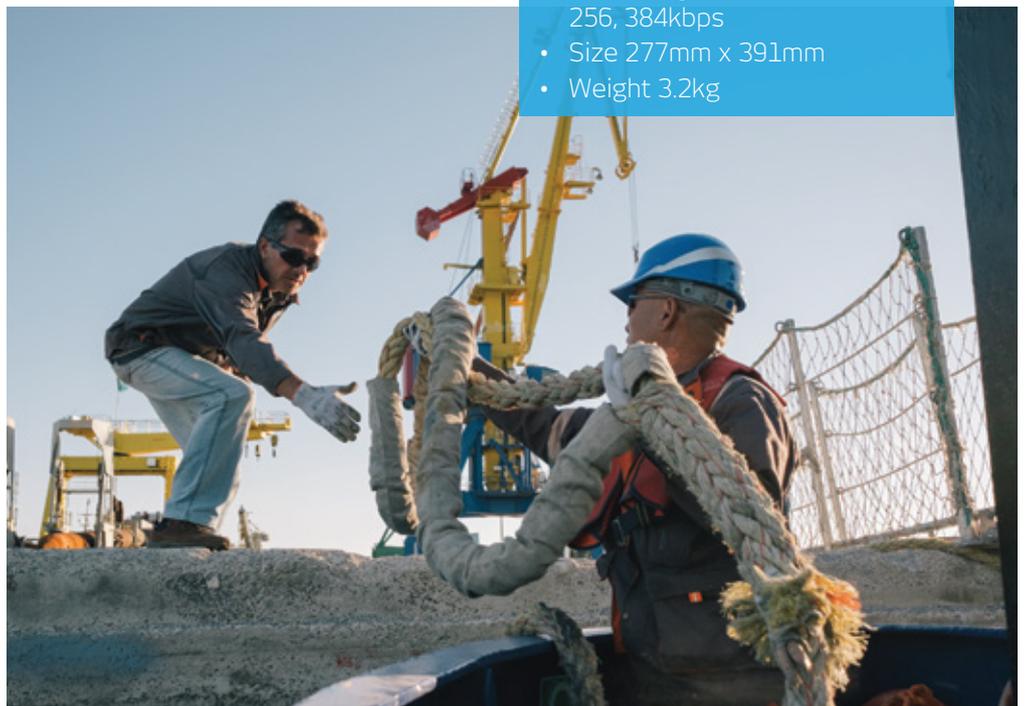
## Crew welfare

KAPE employees are frequently separated from family and friends for weeks while at sea. The company is committed to helping them stay in regular contact with home during these periods, so it makes it easy for them to access voice and internet communications over the Thuraya system. Crew members can use their own phones while onboard to make calls, and can access social media platforms such as Viber, Skype and WhatsApp.

Andrey Leonov, Second Engineer, is a regular user of the service while at sea. “Thuraya is great for keeping in touch. Any crew member with a modern mobile phone can use the service to communicate with friends and family during his or her free time. The vessel is supplied with a router, which provides everyone on the vessel with an internet connection.”

## Key features of Thuraya Orion IP

- Standard IP at up to 444kbps
- Streaming IP at 16, 32, 64, 128, 256, 384kbps
- Size 277mm x 391mm
- Weight 3.2kg



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*"The filtering services provided by IEC Telecom helped us block unwanted websites, which ensures the security of our internet connections and software packages. Thanks to Thuraya and IEC Telecom, the increase in the performance of data transmission channels has positively affected the image of our company and made our services more competitive."*

*- Alexey Mulyaiev,  
IT Manager*



### Value-added services by IEC Telecom

As a long-term and experienced Thuraya service provider, IEC Telecom is expert at helping clients get maximum impact and value from Thuraya services.

The Thuraya Orion Edge solution by IEC Telecom allows KAPE to optimize bandwidth, control data usage with data-compression tools and minimize the data needed to access and run programs. It includes tools for budget control that enable KAPE to monitor usage and costs.

A new data plan from IEC Telecom led to a significant increase in the productivity of scientific groups by enabling faster data transfer and reducing the time needed to process it. KAPE has reported "a significant acceleration of key business processes" and an estimated "70% faster information transfer".

The data plan made the cost of communications more transparent, and a monthly subscription fee lower than those of competitors. This has helped KAPE reduce project costs and maximize profits.

IT Manager Alexey Mulyaiev says: "The filtering services provided by IEC Telecom helped us block unwanted websites, which ensures the security of our internet connections and software packages. Thanks to Thuraya and IEC Telecom, the increase in the performance of data transmission channels has positively affected the image of our company and made our services more competitive."

As a result of Thuraya and IEC Telecom's services, KAPE greatly contributes to preserving one of the world's most remarkable marine habitats, the Caspian Sea.

### Thuraya products:

*Thuraya Orion IP  
Thuraya SF2500  
[www.thuraya.com/marine-comms](http://www.thuraya.com/marine-comms)*

### Kazakhstan Agency of Applied Ecology (KAPE)

*[www.kape.kz/en/](http://www.kape.kz/en/)*

### IEC Telecom

*[www.iec-telecom.com](http://www.iec-telecom.com)*