



# Solutions for shipping and logistics

Customer Management  
Standard  
Development  
Consistency  
Business  
Optimal

Innovation  
Strategy  
Supply Chain  
Management

Customer Management  
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Manufacturing  
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- Common problems and tasks of the industry
- ScanEx services for solving shipping problems
- ScanEx services description
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  - Ice monitoring service
  - AIS monitoring service
  - Access to open geospatial data service
  - Under keel clearance management (UKCM)
- Clients

# Shipping and logistics in figures

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**60%** global cargo turnover is provided by sea transport

**70%** growth of cargo handling in the Arctic for the first half of 2017

**\$2 000 000** one 8500 TEU container ship losses due to incorrect or non-operational planning (per year)

## In the sea:

- Operational maneuvering
- Fuel consumption control
- Paving the optimal route

## On the land:

- Reports to supervisory authorities
- Analysis of the competitive environment
- Operator and captain actions monitoring



Safety



Routing



Money savings

# ScanEx Services



Vessel detection



Ice monitoring



AIS monitoring



Open geospatial data



Under keel clearance management (UKCM)

# Vessel detection service

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Data on the exact location of vessels are in demand in the field of fishing, maritime transport and monitoring of marine pollution.

Vessels turn off the AIS in order to cross the restricted areas or to compile a report on the extra fuel spent on the maneuver that they did not commit.

Ship-owners often face unfounded claims that their vessels caused film contamination.

## Tasks

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- Reporting for the claims resolution
- Control of ship operators and captains
- Ship safety hazard reports
- Determination of vessel characteristics
- Analysis of traffic congestion of ports and water areas

The amount of film contamination in the world ocean is constantly increasing. Most of the pollution has signs of ship origin. The ship detection service helps to prove the involvement or non-involvement of the ship in specific pollution.

## Key features

- ✓ **Radar and optical images** to determine the characteristics and coordinates of ships;
- ✓ **Own receiving stations** to ensure the **efficiency** of the data received;
- ✓ **Satellite and coastal (terrestrial) AIS data** - to identify ships;
- ✓ **The universal way** to deliver the service - ScanEx Web-GIS, your IS, report;
- ✓ **25 year experience** – to solve the problems of our customers.



# Monitoring of ice conditions

34 million tons

The amount of cargo handling in the Arctic for six months

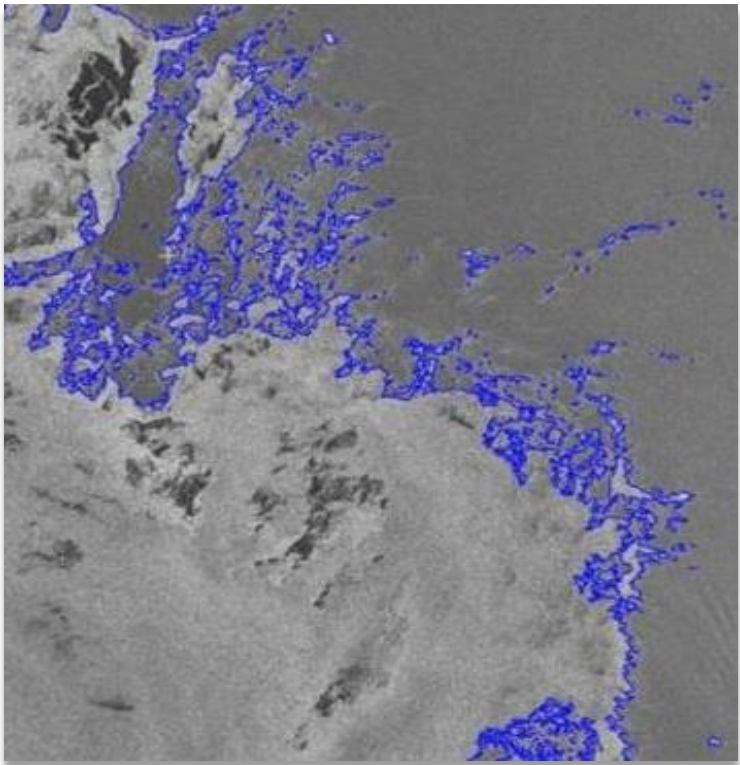
10 000 km

of the path saves the ship on the route Vladivostok - St. Petersburg, using the NSR, instead of the Suez Canal

3 500 000 \$

Saves container ship or dry cargo ship

РОССИЙСКАЯ  
ФЕДЕРАЦИЯ



## Objectives



Arctic ice monitoring:

- Determination of the ice edge;
- Determination of concentration, age, forms of ice.



Monitoring of hazardous phenomena:

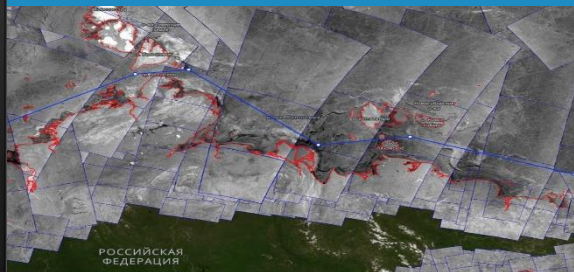
- Detection of icebergs and other dangerous ice formations;
- Determination of the characteristic (coordinates, dimensions).



Forecasting:

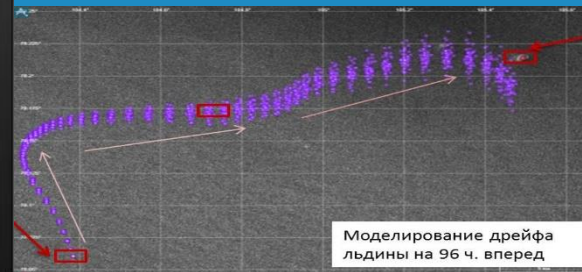
- Ice drift in the Arctic;
- Drift of icebergs and other dangerous ice formations.

## Level-A. Space imagery



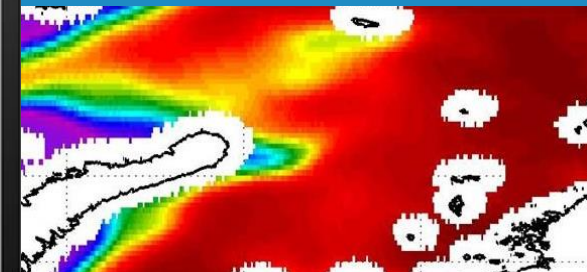
- Radar survey
- Optical survey

## Level-B. Analytics



- The ice edge monitoring
- Determination of ice characteristics
- Icebergs identification
- Drift forecasting
- Satellite support

## Level-C. Sea-ice maps



- Ice conditions maps
- Ice concentration maps
- Ice types cards
- Forecast maps

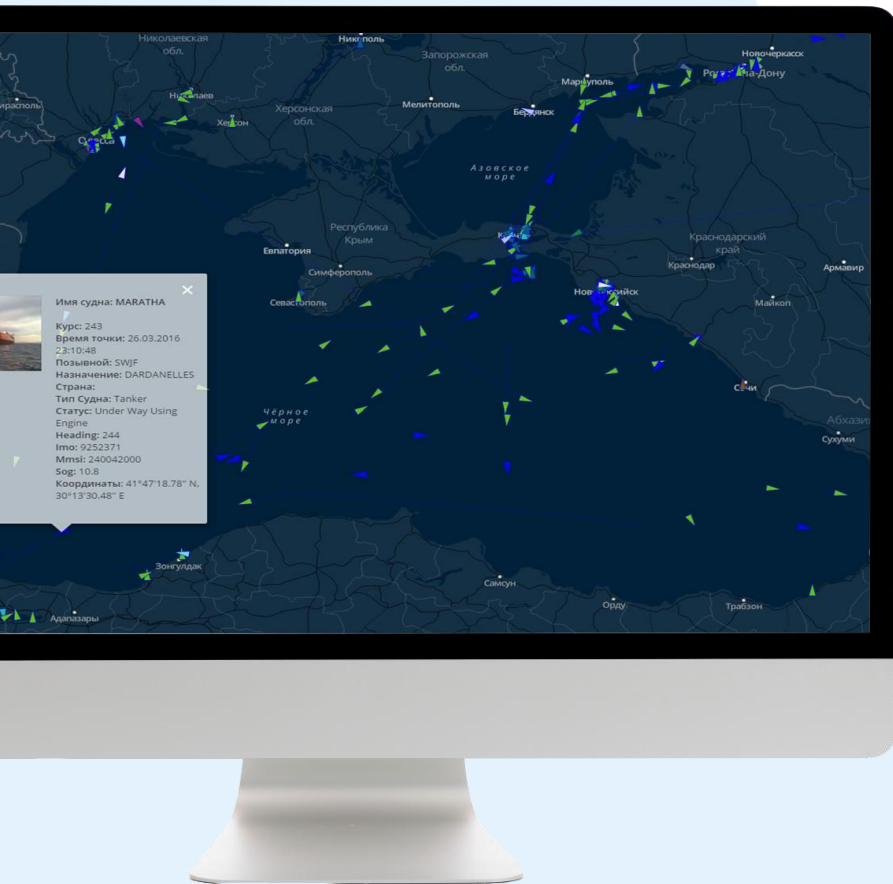
# AIS Monitoring service

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Operators and ship owners use AIS monitoring to track their fleet and to increase awareness and management effectiveness.

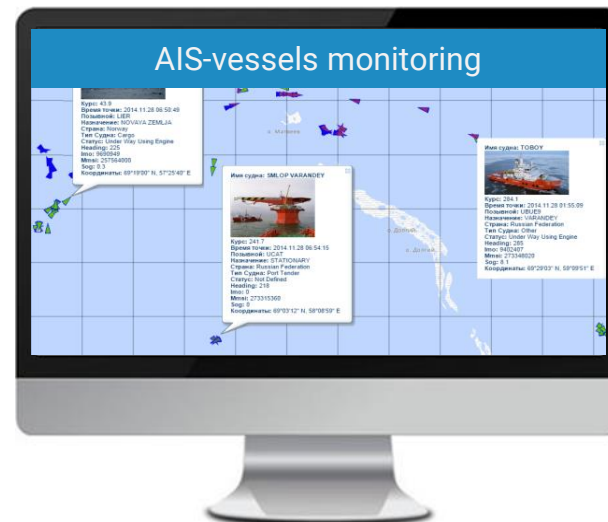
For charterers and logistics specialists, accurate and timely information on the time of arrival at the port, the situation in neighboring ports, idle time on unloading and loading increases the efficiency of the business and minimizes the costs.

## Tasks



- ✓ Fleet monitoring online (notification of approach to a given point)
- ✓ Reporting on the movement of ships for a given period
- ✓ Detailing of maneuvering in ports, including towing operations
- ✓ Analysis of the transition (deviation from the course, change in freight speed, etc.)
- ✓ Analysis of the density of vessels awaiting unloading and / or sluicing
- ✓ Analysis of the density of fishing vessels in a given area
- ✓ Fixation of crossing of security zones (forbidden, ecological zones, SECA, etc.)

## Key features



120 000+  
unique ships

- From satellite AIS daily



Up to 480 repeat  
visits

- From all s-AIS satellites



Less than 30  
minutes

- Average update frequency to client



More than  
12 000 000 position

- Only from satellite AIS data daily

# Open geospatial data service

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35 000 Tb

Of open survey data  
downloaded this year

300%

annual growth at storage  
data

160 Gb

open data on Russia is  
downloaded daily

## Current problems with open data

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Downloading data across multiple portals with different interfaces, access systems and search tools



Processing and integration of data into your information system in manual or with minimal automation



The lack of information about the presence of a new survey on the area of interest



The duration of the loading process and processing of the data



Lack of convenient tools for selecting areas of interest

Infrastructure expenses

Resources of data storage

Specialized Software

IT staff and image specialists

## Tasks

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Connecting data from different platforms and portals



Automatic integration / connection of the geospatial data to the customer's system



Saving of human and machine resources



Intuitive and functional interface



Possibility to refill data for unreachable areas



Payment by flexible subscription - month, quarter, year



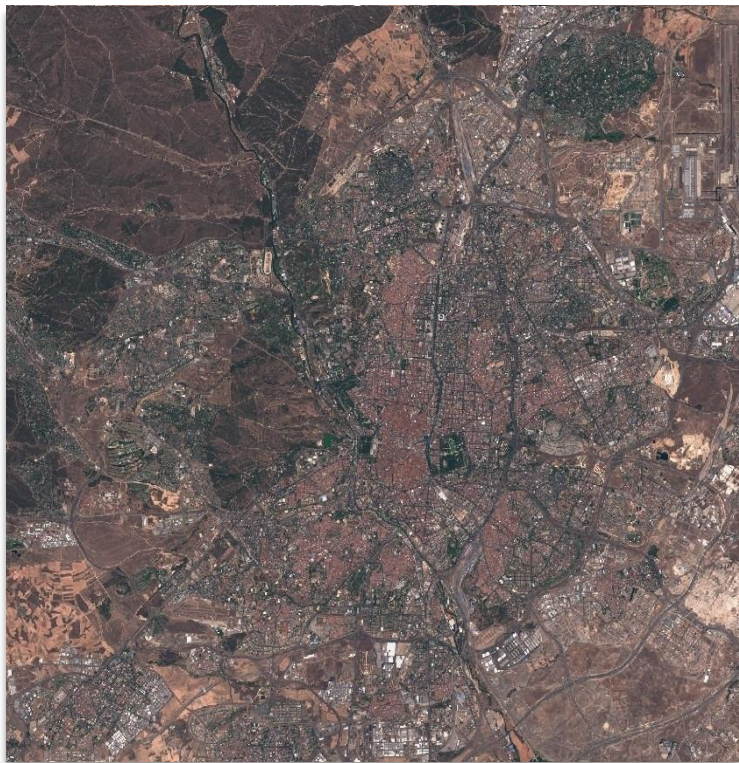
✓ Fast



✓ Saving resources



✓ Relevance



## Key features

- **Originality** - use open optical and **radar** imagery;
- **Technological** - **automatically** integrate new imagery into the ScanEx Web-GIS or your information system;
- **Convenience** - use functional tools (from the choice of the zone of interest to the **time slider**);
- **Awareness** – be informed about fresh imagery to the area of interest by **e-mail / sms**;
- **Scalability** - connect the service to **different GIS** and connect **new users** to the systems.

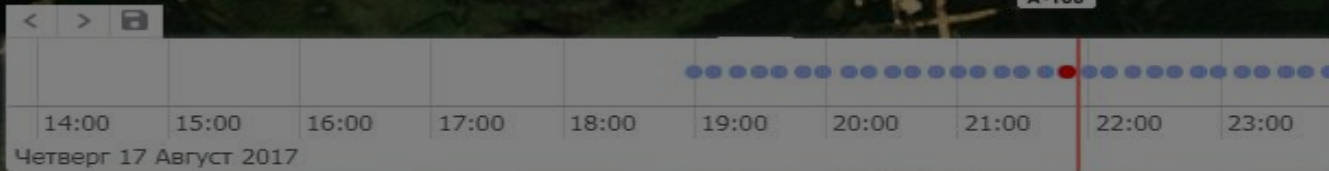
# Under Keel Clearance Management (UKCM)

20%

Navigational accidents at sea are associated with the grounding or touching the ground

90%

This is the result of miscalculation of the navigational service and errors in loading the vessel



# Objectives

1. Calculate the **safe passage zone** by analyzing the current draft of the vessel, the stock under the keel (UKC) and the estimated drawdown, which is depending on the planned / required speed of the shallow water section.
2. Choose **the optimal combination of precipitation and departure time**;
3. Form **a safe route and schedule along this route**.



## Key Features

- ✓ The service allows to additionally load the ship with cargo and coordinate it with the Port Authority
- ✓ The calculation of a safe ship draught can be carried out by both shore services on the basis of the register data of vessels and on the vessel on the basis of actual data.

A modern generation of LNG tankers with a high cargo capacity (200-250 thousand m<sup>3</sup>) can additionally load up to 25 cm in the draught

One centimeter of additional ship draught is 80 tons of cargo.

# We are already working with



and many others...



## Why choose ScanEx?

- ✓ Complex solutions for different markets
- ✓ Rapid access to data and deep analytics
- ✓ 27 years of successful experience in the market
- ✓ Expertise and competence of the world level

Имя судна: MARATHA

Курс: 243

Время точки: 26.03.2016

23:10:48

Позывной: SWJF

Назначение: DARDANELLES

Страна:

Тип Судна: Tanker

Статус: Under Way Using

Engine

Heading: 244

Imo: 9252371

Mmsi: 240042000

Sog: 10.8

Координаты: 41°47'18.78" N,

30°13'30.48" E



**RosAtomFlot operates on a territory of 25 million square kilometers**

ScanEx's monitoring service helps efficiently solve tasks related to operational paving the routes and optimization of time costs

# We are waiting for you

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Customer  
Management  
Standard  
Development  
Consistency  
Business  
Optimal

Manufacturing  
Supply chain  
Production  
Control  
Customer  
Demand  
Inventory  
Management  
Freight

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