

## Events 2014

26 March – 1 April 2014

International TOVS Study Conference (ITSC)  
Jeju Island, South Korea  
<http://cimss.ssec.wisc.edu/itwg/itsc/>

22 – 26 September 2014

EUMETSAT 2014  
Geneva, Switzerland  
<http://www.eumetsat.int/>

21 – 23 October 2014

Brussel Expo 2014  
Brussel, Belgium  
<http://www.meteorologicaltechnology-worldexpo.com/>



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## BarentsWatch with National Port Overview

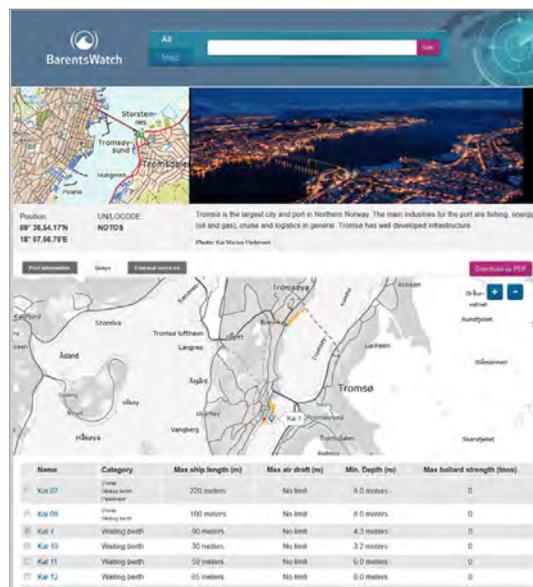
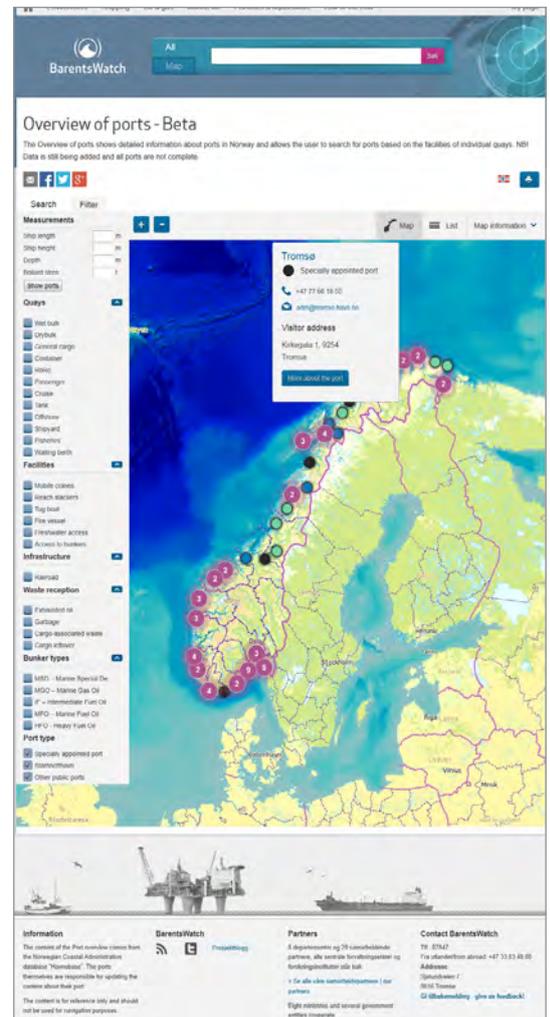
The National Overview of Ports, a new feature of the BarentsWatch portal, was launched on October 29th 2013 at the Coast and Ports conference in Honningsvåg, Norway.

The objective of BarentsWatch is to be an information- and surveillance system providing relevant, updated high quality information and services related to the Northern ocean and coastal areas, and the new overview is an important step towards fulfilling this goal.

The overview provides a unique opportunity for users to search for ports based on criteria such as facilities and waste reception in order to find a port best suitable to fit their requirements.

The results can be viewed on a map or as a list.

Clicking on an icon on the map brings up a pop-up with a link to read more about the port. The port page contains key information about the port, external services available in the area, and a map of piers with a link to read more about each pier.



The content in the port overview is provided by the Norwegian Coastal Administration port database, and each port is responsible for keeping their information up to date.

The Kongsberg Spacotec team has continued to refine the port overview after its initial release, adding features such as the option to download port information as a pdf and a change log highlighting the most recent changes to the port.



EXTREME PERFORMANCE FOR EXTREME CONDITIONS

# EXTREME PERFORMANCE FOR EXTREME CONDITIONS

## JPSS

Joint Polar Satellite System is a consolidated satellite program for weather and climate, and is considered to be the most important source for improved weather reports, civilian preparedness and climate research in the U.S. and the rest of the world in the years to come. Raytheon is the main contractor for building the JPSS ground segment under this NASA contract. JPSS will be operated by National Oceanic and Atmospheric Administration (NOAA).



Artist Illustration of NPP Satellite

## RAYTHEON

Raytheon Company is a technology and innovation leader specializing in defense, security and civil markets throughout the world. With a history of innovation spanning 92 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects, command, control, communications and intelligence systems, as well as a broad range of mission support services.

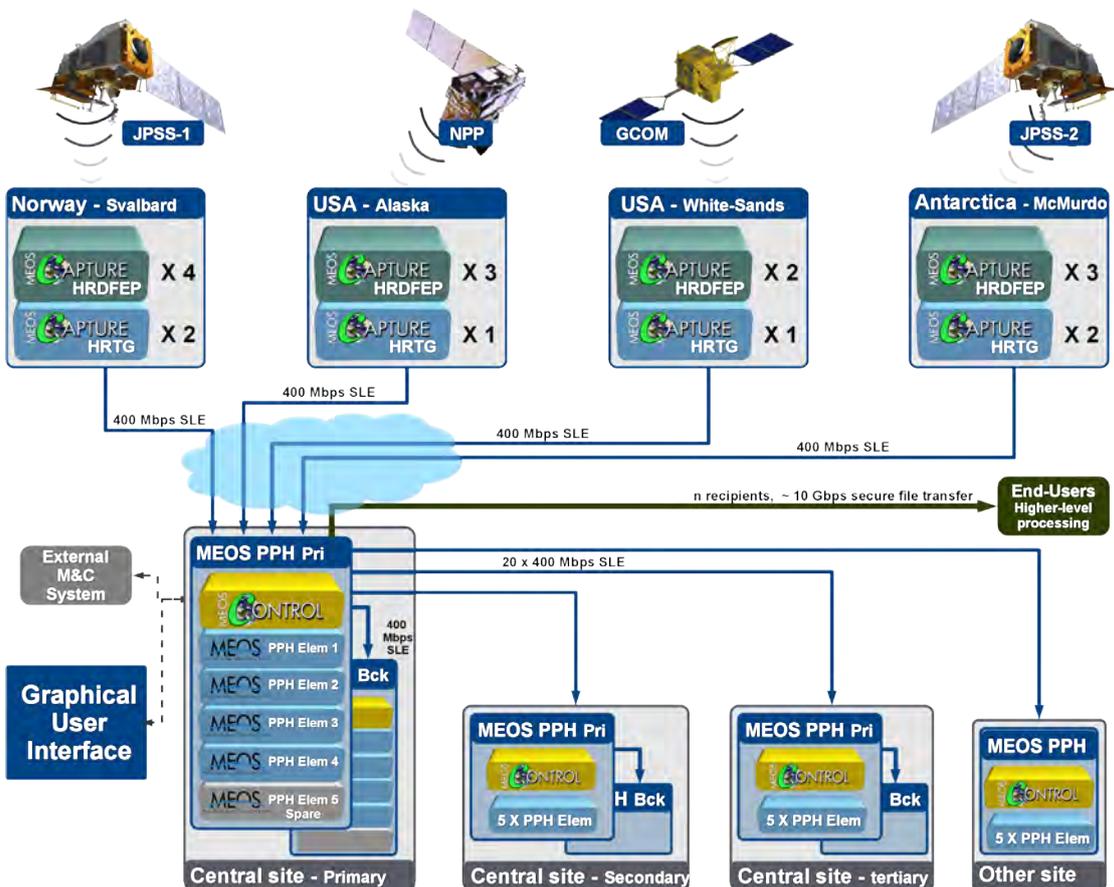
## New important contract awarded to Kongsberg Spacotec

Kongsberg Spacotec AS (KSPT) has been awarded a contract with Raytheon Company of the U.S. for delivery of parts of the ground segment for the satellite program Joint Polar Satellite System (JPSS). The contract has a significant potential for extensions, maintenance/support and technical updates after 5 years.

The contract is based on KSPT's standard products for reception of high-rate satellite data, as well as new systems for processing, intermediate storage, and distribution. KSPT will deliver reception systems on the various ground stations for JPSS (Svalbard, Alaska, New Mexico and Antarctica), as well as the systems for first-level data processing, data storage and distribution for further processing to end-user data.

This is a very important contract for Kongsberg Spacotec as it opens a new market for our products in the US. Together with the contract with ESA on the three first Sentinel Satellites (more than 20 systems), the new products developed for the JPSS Ground Segment (more than 60 systems), have strengthened our position as the world leading satellite data capturing system provider.

For more information about JPSS:  
<http://www.jpss.noaa.gov/mission.html>  
[http://en.wikipedia.org/wiki/Joint\\_Polar\\_Satellite\\_System](http://en.wikipedia.org/wiki/Joint_Polar_Satellite_System)



Overview of Kongsberg Spacotec deliveries to the JPSS Ground Segment

MEOS™ is a registered trademark of Kongsberg Spacotec AS, in Norway and other countries.



## EXTREME PERFORMANCE FOR EXTREME CONDITIONS

### JPSS Ground Segment delivery

The JPSS GS delivery will support a range of missions, including JPSS-1, JPSS-2, NPP and GCOM. The final products of the system will be used to improve our understanding of the planet, including increased accuracy and reliability of weather forecasting capabilities and to facilitate long-term climate monitoring and prediction.

The delivered system must meet strict requirements with regards to performance, stability, and fail-over handling as an integrated part of mission-critical operations. It must also be able to handle large amounts of payload data in real time.

Based on standard KSPT products and technology, the delivered system can handle approximately 20 Gbps of data, with minimal latency, during maximum operations.

Although supporting more traditional distribution protocols, Consultative Committee for Space Data Systems (CCSDS) Space Link Extension (SLE) is the default protocol for data distribution, both from the satellite stations to the central site, and between the central systems.

The only exception is end-user distribution, where secure file transfer protocols are used. SLE support includes RAF (Return All Frames) and RCF (Return Channel Frames), UIB (User Initiated Bind) and PIB (Provider Initiated Bind), protocol version 2 and 4, as well as data rates up to 600 Mbps.

The delivered system is based on our MEOS™ Capture HRDFEP (High Rate Demodulator and Front-End Processor), MEOS™ Capture HRTG - High Rate Test Generator and MEOS™ PPH (Packet Processing Hub).

### 26 GHz Telemetry Receiver development for ESA under the GSTP Programme

Kongsberg Spacetek has since September 2012 been working with support from SINTEF on a 26 GHz Telemetry Receiver development for ESA under the GSTP Programme.

Phase One tasks comprised requirements consolidation, design of receiver front-end, demodulator and a Serially Concatenated Convolutional Codes (SCCC) turbo decoder, including verification by simulation and prototyping of critical functions.

The Phase One work concluded with a Critical Design Review (CDR) meeting, and the results were approved by ESA. Phase Two is the full implementation of the receiver and is expected to start soon.

In the meantime KSPT is working on the implementation of an early prototype receiver that will be used for validating a transmitter prototype from a different ESA development.

The 26 GHz receiver will support Variable Code Modulation and Adaptive Code Modulation at Gigabit rates.

The development builds on the established MEOS™ HRDFEP product from Kongsberg Spacetek.

#### NASA

The National Aeronautics and Space Administration (NASA) is the agency of the United States government that is responsible for the nation's civilian space program and for aeronautics and aerospace research.

#### NOAA

The National Oceanic and Atmospheric Administration is a scientific agency within the United States Department of Commerce focused on the conditions of the oceans and the atmosphere. NOAA warns of dangerous weather, charts seas and skies, guides the use and protection of ocean and coastal resources, and conducts research to improve understanding and stewardship of the environment. In addition to its civilian employees, NOAA research and operations are supported by 300 uniformed service members who make up the NOAA Commissioned Officer Corps.





## New contracts

Contract with Raytheon Company of the U.S. for delivery of parts of the ground segment for the satellite program Joint Polar Satellite System (JPSS).  
MAR2014

METOP (Meteorological Operational) upgrade of ground stations to SRC Planeta, in Russia.  
FEB2014

MEOS™ Ground Station installed at the Norwegian Meteorological Institute in Oslo  
JAN2014

KSPT Upgrade of three Barentsburg ground stations.  
DEC2013

KSPT providing technical support and training to National Space Organisation (NSPO) Taiwan  
DEC2013

MEOS™ HRDFEP for MTG PDD SCOE to Siemens Convergence Creators GmbH, Austria  
NOV2013

Study on Space Situation Awareness (SSA) – Space Weather (SWE)  
OCT2013

## KONGSBERG Celebrates its 200<sup>th</sup> anniversary

KONGSBERG celebrates its 200<sup>th</sup> anniversary on 20 March 2014. The company can boast the longest industrial history in Norway, with continuous operations since the foundation of the Kongsberg weapons factory in 1814.

Throughout 200 years what is now known as KONGSBERG has been an industrial trailblazer in the defence, maritime, oil, gas and aerospace sectors.



*“There are not many businesses in the world that can boast 200 years of continuous operations, and this is something we are very proud and respectful of. We can look back on a unique and memorable history, and we are now a leading international high-technology corporation,”* says CEO Walter Qvam of KONGSBERG.

### 1814 - The establishment of the Norwegian defence industry

Kongsberg weapons factory (KV) was founded by Poul Steenstrup, mining superintendent and participant at the national assembly at Eidsvoll, on 20 March 1814. This represented the establishment of Norway's first factory, even before the industrial revolution in Norway.

During the spring of 1814, Norway had gained its constitution, and the work of building the country's first factory began in Kongsberg.

The establishment of Kongsberg weapons factory in 1814 must be viewed in the light of other events of the same year. In January 1814, Norway had been ceded to Sweden, after centuries of union with Denmark. However, in Norway forces were working to give the country independence, and the need for a defence industry developed.

### From the industrial revolution to international high technology supplier

KONGSBERG has experienced numerous eras, including Norway's incipient industrial revolution in the 1800s, the development of the post-war technological industrialized Norway and the internationalization of Norwegian technology and expertise in the final decades until today.

For more information on KONGSBERG's current activities and history, please visit our anniversary website <http://200.kongsberg.com>



*KONGSBERG - location Tromsø - Kongsberg SpaceteC and Kongsberg Satellite Services has a staff of 160. Some of us gathered to send our greetings to the KONGSBERG 200<sup>th</sup> Anniversary on March 20, 2014*