IN BRIEF

Baltic Youth Philharmonic
A New Voice in the North

BYP BACK ON TOUR

The third season of the Baltic Youth Philharmonic (BYP) is set to begin with a tour of the Baltic region at the end of June. The BYP project, initiated in 2008 by Nord Stream and the Usedom Music Festival, unites music academy students from all of the Baltic Sea States, providing musicians at the start of their careers with an opportunity to develop their talents and gain valuable orchestral performance experience.

In 2010, 100 music academy students from the Baltic region were selected via auditions in Berlin, Vilnius, Oslo, Tallinn and St. Petersburg. The orchestra is led by Music Director Kristjan Järvi, a committed advocate of music education. Internationally renowned instrumentalists will coach these talented musicians in preparation for the series of concerts planned for this year.

Highlights of the 2010 tour are an open air concert in St. Petersburg's Mikhailovsky Garden in July, along with a performance in the city's famed Mariinsky Theatre.

For a full concert schedule, please visit:

> **www.baltic-youth-philharmonic.com**

FAST FACTS

1 **A rock placement contract has been signed.** Boskalis-Tideway Offshoren was awarded a 100 million euro contract in April.

2 **Rock berms are used for pipeline stability.** The placement of rock in some areas of the route creates a base on which the pipeline can rest.

3 **Environmental criteria will be met.** The material used for rock placement is not harmful to the Baltic Sea's ecology.

Mine Clearance on Track

Munitions removal is completed in Sweden and underway in Finland

In mid-March, work commenced on clearing seven mines identified by Nord Stream along its pipeline route in the Swedish Economic Zone (EEZ). These mines were detonated in early April by the British mine clearance company Bactec International. In April, clearance began in the Finnish EEZ, where 37 munitions were identified in the security and anchor corridors of the route. This work should be completed by the end of May this year. Responsibility for munitions clearance in Russian waters resides with the Russian government, and the work will be undertaken by the Russian navy following their standard procedures for clearance. Mines are detonated on site using internationally proven technology. All associated activities are based on an environmental and safety management plan that includes monitoring and mitigation measures. For example, in order to avoid potential adverse impacts on shipping, a safety zone will be established around each munitions site during clearance works. During pre- and post-detonation, a safety zone of 1 kilometre is enforced. During detonation the safety zone is 1.85 kilometres. Prior to clearance, a notice to mariners is issued.

Construction in Germany Begins

The pipeline landfall area in Lubmin is being prepared

In mid-April, construction activities started in Germany at the landfall at the Lubminer Heide energy centre. All of the permits necessary for the construction and operation of the Nord Stream Pipeline in German waters were granted by authorities at the end of 2009. Onshore construction in Lubmin will continue until mid-May, followed by the construction of another 550-metres of the cofferdam in the Bay of Greifswald. The onshore installation of the cofferdam is being built at an area in Lubmin spanning 5-hectars. It is adjacent to the field where a receiving terminal will be built. The 450-metre-long, 150-metre wide construction field has been cleared, levelled, and fenced in.

Sheet piles driven into the ground.

Heavy-duty machinery is used to erect the cofferdam about 150-metres inland. To do so, steel sheet piles will be driven into the ground to create two parallel walls. After installation, the seabed between the pilings will be excavated to create a trench. Then the two pipelines will be pulled ashore in succession and laid next to each other in the trenches. In a next step, the trenches will be filled in and the pipelines buried. A team from Nord Stream will be on site to supervise construction.

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Nord Stream
The new gas supply route for Europe

FACTS

NEWSLETTER ABOUT THE NATURAL GAS PIPELINE THROUGH THE BALTIC SEA ISSUE 13 / MAY 2010

Dr. Bernd Pfaffenbach, German Federal Ministry of Economics and Technology; Günther Oettinger, European Commissioner for Energy; Alexei Miller, OAO Gazprom; Dmitry Medvedev, President of Russia; Gerhard Schröder, Chairman of the Shareholders' Committee, Nord Stream; and Matthias Warnig, Nord Stream.

Celebrating the Start of Construction: Senior EU and Russian Officials Attend Inaugural Event

Construction of the Nord Stream Pipeline began on schedule in April 2010

The construction start of the Nord Stream Pipeline was celebrated on April 9, 2010 in Portovaya, Russia with a symbolic act. Two pipeline segments, one labeled Europe and the other Russia, were welded together to represent the connection of Russia to the European gas network via the Nord Stream Pipeline. The President of Russia, Dmitry Medvedev, the EU Commissioner for Energy, Günther Oettinger, and senior officials from Germany, Finland, France and the Netherlands attended the celebrations, as did representatives from the Nord Stream consortium. More than 200 guests took part, as well as more than 150 journalists from around the world who reported on the proceedings.

A Solid Partnership

President Medvedev, who gave the opening address, said the Nord Stream Pipeline would guarantee a stable flow of gas to Europe and set an example for future energy cooperation between Russia and Europe.

"Nord Stream is a key link in guaranteeing global and European energy security," he stated. "It is an important and systemic part of the energy dialogue between Russia and the EU, as its special status of trans-European energy network clearly illustrates. This pipeline will ensure reliable gas supplies to European consumers."

Though German Chancellor Angela Merkel was unable to attend the event, she lauded the start of construction of the Nord Stream Pipeline in a video message. Chancellor Merkel underscored the need for a strong, long-term energy partnership between Russia and Europe, which offers businesses on both sides opportunities for cooperation and growth. "Nord Stream demonstrates the vast economic potential rooted in such a partnership," she said. Like Merkel, Günther Oettinger praised the Russian-EU partnership, and said that every new pipeline is a benefit to the EU's energy security. Gerhard Schröder, Chairman of Nord Stream's Shareholder Committee and former Chancellor of the Federal Republic of Germany informed guests that construction began on April 8, and that going forward, the team on the Castoro Sei laybarge will be working around the clock, seven days a week to make the pipeline a reality. "While we are determined to stick to our planning schedules, quality and safety are our absolute priority," he said. "We are committed to ensuring that our pipeline will be safe and reliable – during construction and in operation."

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In addition to FACTS, Nord Stream also offers e-FACTS, its electronic newsletter.
e-FACTS provides additional updates on the Nord Stream project and related topics. e-FACTS is available online and via email in English only.

Please visit www.nord-stream.com to subscribe.

Nord Stream
The new gas supply route for Europe

Nord Stream Pipeline Construction

> In April 2010, Nord Stream began installing the first of its two natural gas pipelines through the Baltic Sea. Construction started in Swedish waters with the Castoro Sei, the laybarge that will handle the majority of the job. Another two vessels will work on sections within the Gulf of Finland and at the German landfall.

From Vyborg in Russia to Lubmin near Greifswald, Germany, each pipeline runs about 1,220 kilometres along the Baltic seabed. Once fully operational, they will transport 55 billion cubic metres of natural gas a year – enough to satisfy the needs of 26 million European households. Nord Stream has commissioned Saipem, a leading Italian offshore project company, with the construction of the pipelines. About 70 percent of each of the pipelines will be laid by Saipem's Castoro Sei, a moored pipelay vessel. In the Gulf of Finland, the Allseas' Solitaire, a laybarge that can position itself without the use of anchors, will be used in this area known for dense ship traffic and historic sea mines. Each vessel is a floating factory where pipes are received from carrier vessels, welded together and then laid at an average pace of about 2.5 kilometres a day. In the shallow waters near the German landfall, Saipem's anchored, flat-bottomed Castoro Dieci will lay an average of 500 metres daily. Once completed, the pipelines will be subjected to rigorous testing before gas can be transported. From the receiving terminal in Lubmin, the gas will enter the European gas grid where it will reach consumers in countries such as Denmark, France, Germany and the UK.

Post-Pipelaying Survey
As it touches down on the seabed, the pipeline is monitored to ensure that it is correctly positioned.

Crane
Two cranes that fully revolve and travel on rails are located on the main deck. Each can lift up to 200 pipes a day onto the barge.

Pipe Carrier Vessel
Pipes weighing about 22 tons each are shipped to the laybarge from five stockyards strategically located along the route.

Helipad
Personnel is transferred to and from the vessel via helicopter, which lands on the helipad at the stern of the Castoro Sei.

Pre-Pipelaying Survey
Though the seabed was surveyed during the route planning phase, a pre-pipelaying survey performed before pipeline installation confirms past data and ensures pipelay safety.

Stinger
The stinger provides support to the pipeline as it is progressively lowered to the seabed.

Pontoons
The Castoro Sei floats on twin pontoons located below the water surface. The pontoons can be submerged by adding ballast water, making the vessel more stable in turbulent seas.

ROV
A remotely operated vehicle (ROV) fitted with sensors and instruments including cameras transmits information from the seabed directly to the survey vessel.

S-Curve
As the pipeline is lowered to the seabed, it forms an "S" shape, which prevents it from being damaged during installation.

Rock Placement
The strategic placement of coarse gravel is necessary in some locations along the route to create a stable base on which the pipeline can rest.

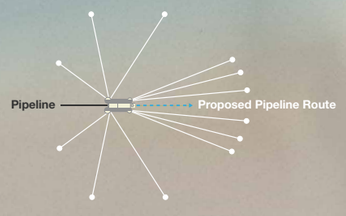
Castoro Sei Laybarge

Saipem's semi-submersible Castoro Sei pipelay vessel has an extensive track record of installing complex pipeline systems in deep and shallow waters. It will lay 70 percent of each of the pipelines.

- 152-metres long, 70.5-metres wide
- Operating draught (typically): 14 metres
- Nord Stream Pipeline lay rate: Circa 2.5 kilometres daily

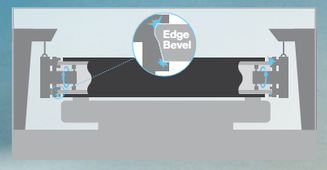
Anchor Pattern

During construction the Castoro Sei is positioned by means of a 12-point mooring system. This system enables it to maintain accurate positioning. Each of the 12 mooring lines, or anchor lines, are controlled by a tension winch weighing 124 tons. The vessel also features thrusters to further ensure precise positioning.

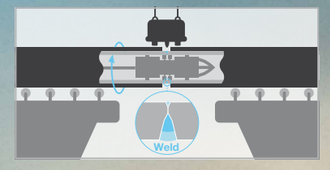


Pipelaying Process

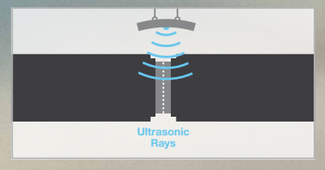
1 The pipes are unloaded from the pipe carrier vessels and stacked on the storage areas on each side of the laybarge. Pipes are delivered regularly to ensure that there are always enough supplies on board to maintain the 24-hour construction schedule.



2 To prepare the pipes for welding, the ends are bevelled to make them exactly the right shape to be fitted together. The inside of the pipe is then cleaned using compressed air before it is conveyed to the double-joint welding station.

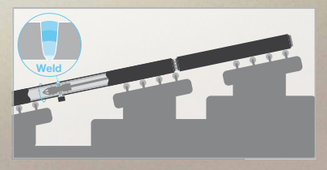


3 At the double-joint welding station, two bevelled, 12-metre pipe joints are aligned and welded together to create a double-joint segment measuring 24 metres. These double-joint sections will later be connected to the main pipe string.

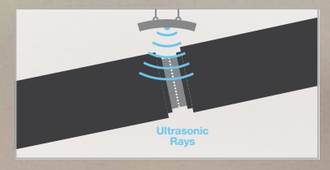


4 The double-joint is moved to the non-destructive testing station where every millimetre of the weld undergoes ultrasonic testing to detect any unacceptable flaws. If required, the defect will be repaired and the weld rescanned to meet international quality standards.

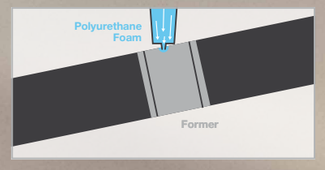
5 Following non-destructive testing, the double-joint is moved in a pipe elevator to the central assembly line, or "firing line". There, the insides are checked for debris. The ends of the double-joint are then pre-heated in preparation for welding onto the main pipe string.



6 The prepared double-joints are now joined to the end of the pipeline in a semi-automatic welding process. Qualified welders oversee each of the steps to ensure that welding procedures meet Nord Stream's and authority approved quality standards.



7 The weld of the double-joint that has been welded onto the main pipeline also undergoes ultrasonic testing at another non-destructive testing station. Any unacceptable flaws will be repaired, and the weld rescanned so that it meets international quality standards.



8 Once the weld is confirmed acceptable, a corrosion-resistant, heat-shrink sleeve is applied around its entire circumference. Then, polyurethane foam is poured into a mould surrounding the weld area. This foam hardens, providing further protection.

Infographic produced by KircherBurkhardt, April 2010 **Pipes shown in yellow for clarity.**