

OPAL

RADELAND
NATURAL GAS
COMPRESSOR
STATION



NATURAL GAS FOR EUROPE



Natural gas, a low-emission fossil fuel with huge reserves, is regarded as the source of energy with the biggest potential in comparison to other fossil fuels. It is the mission of OPAL Gastransport GmbH & Co. KG to provide secure supplies for Europe.

Since Europe's domestic gas production is on the decline, consumers are set to become even more dependent on imports in the future. In cooperation with our partner, Lubmin Brandov Gastransport GmbH, we make sure that up to 36 billion cubic meters of natural gas a year reliably reach European consumers from Russia's major sources.

OPAL Gastransport GmbH & Co. KG receives the Russian quality natural gas at Greifswald/Lubmin and transports it over 470 kilometers through Mecklenburg-West Pomerania, Brandenburg, and Saxony all the way to Brandov in the Czech Republic. Using pipelines that measure 1.40 meters in diameter and have an operating pressure of 100 bar, OPAL links transport routes and makes an important contribution to natural gas supplies in Germany and other European countries.

KEEPING UP THE PRESSURE



On its route from the source to consumers, natural gas travels many thousands of kilometers, during which it loses pressure as the gas molecules in the gas flow rub against each other and the inside of the pipe. This loss of pressure has to be compensated for. For OPAL, this task is performed by the Radeland compressor station, located some 60 km south of Berlin.

The core of any compressor station are the gas compressors, where the pressure of the gas is increased (i.e., the gas is „compressed“) for onward transportation. The compressors are driven by gas turbines. A natural gas compressor consists of several rotating impellers arranged in a shaft assembly inside a steel casing (multi-level turbo compressor).

The compressor is driven by a gas-fueled turbine, similar to those used in jet planes. The gas turbine reaches speeds of around 6,500 rounds per minute. The compressor power units and the gas turbines are located in specifically built compressor houses to minimize noise emissions and protect the complex technology.

RADELAND COMPRESSOR STATION



One of Western Europe's largest and most modern compressor stations has been built south of Berlin. It is located on the edge of the industrial area in Baruth (Teltow-Fläming district) in Brandenburg. At Radeland, after more than 270 kilometers of travel through OPAL, the gas pressure can thus be boosted to 100 bar again.

At the start of the compression process, the gas is purified in natural gas filter assemblies. The fuel gas treatment system treats a small amount of the transported gas for operating the gas turbine. The gas turbine takes in the air it needs for the combustion process through an air filter and a muffler. The exhaust gases are released into the air through another muffler and the flue. The exhaust gas values are constantly monitored to ensure the permissible limits are not exceeded. After compression, the temperature of the natural gas is reduced in air coolers to the right level for transport in the pipeline. The gas can now continue on its journey.

The entire compression process is controlled and monitored from the operating building and from the permanently staffed dispatching center. The entire process is backed by a highly qualified team with a wealth of experience. The Radeland compressor station is operated by GASCADE Gastransport GmbH, which along with OPAL Gastransport is a subsidiary of the Kassel-based W & G Beteiligungs-GmbH & Co. KG.

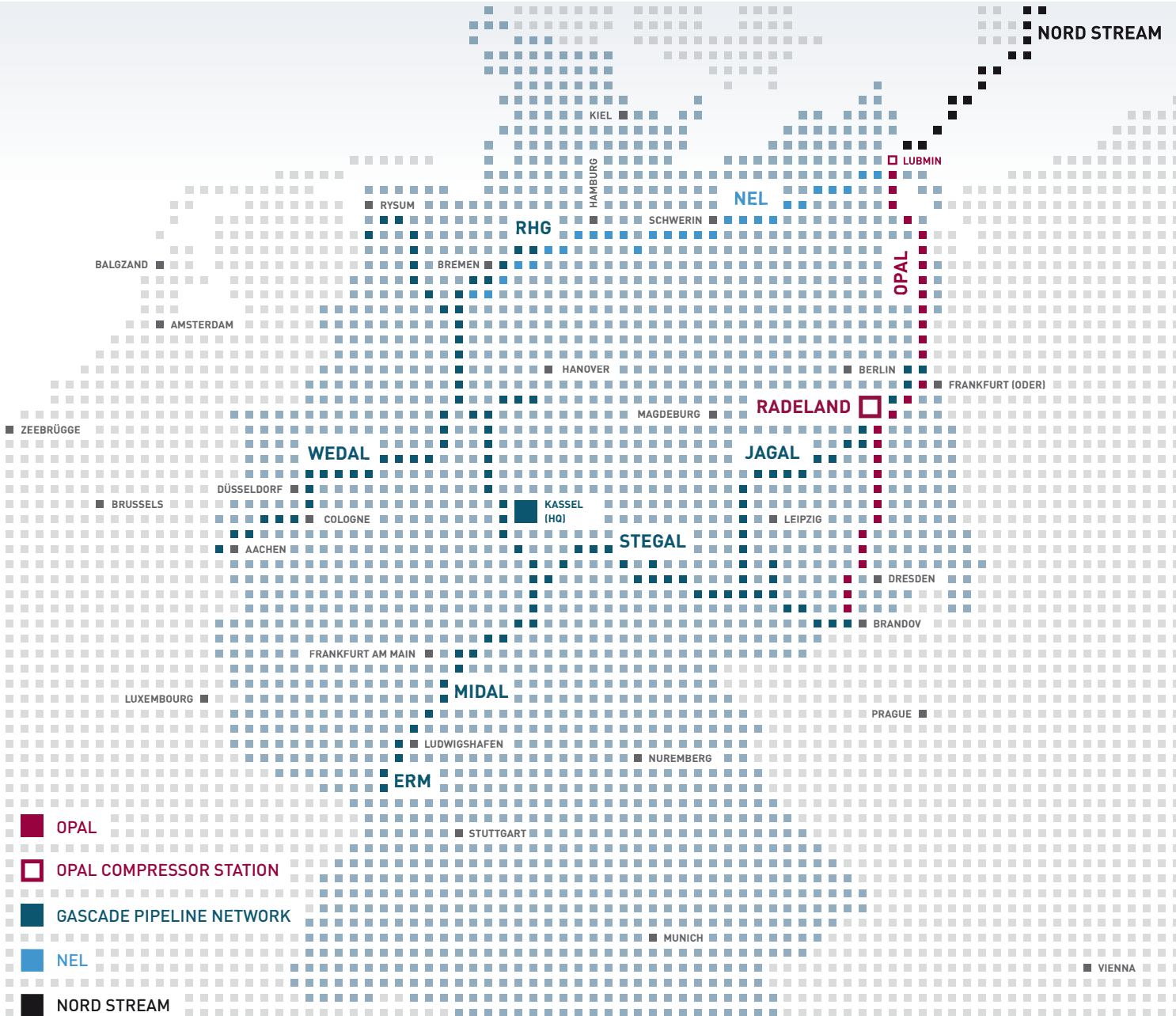
TECHNICAL INFORMATION



- 1 Operations building
- 2 Workshop
- 3 Gas cooler
- 4 Compressor houses
- 5 Storage and fuel gas treatment system
- 6 Intake filter
- 7 Gas pressure control and measurement system

TECHNICAL DATA	
Number of compressors	3
Compressor output	96 megawatts (1 x 30.0 MW and 2 x 33 MW)
Type of drive	Gas turbine SGT 700
Max. operating pressure	100 bar
Capacity (m ³ /h at normal conditions)	3.6 million
Commissioned in	October 2011

OPAL'S PIPELINE NETWORK



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