

**GASCADE**

# THE GAS COMPRESSOR STATION MALLNOW

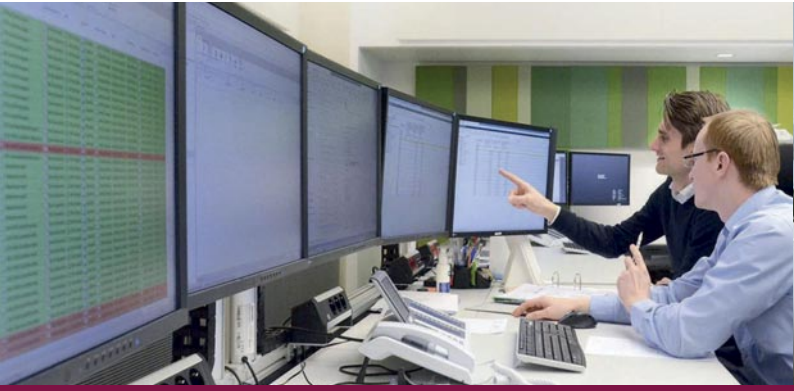


## GAS FOR EUROPE



On the path to climate-neutral supply with renewable energies, the gas market is changing: Declining natural gas production within Europe, the diversification of supply sources, and the development of new sources such as hydrogen and climate-neutral gases are issues that also concern GASCADE. In line with the climate targets, we are already developing approaches to make our pipeline network in the middle of Europe fit for the energy future. We take natural gas and climate-neutral gases to where they are needed. Our system receives the gas from transit pipelines at Germany's borders and transports it reliably to consumers in Germany and Europe. We directly connect a total of five European countries, thus making a significant contribution to supply security, both now and in the future.

# PRESSURIZING GAS



From the source to where it's used, the gas travels many thousands of kilometers in pipelines measuring up to 1.4 meters in diameter. During this journey it loses pressure as the molecules rub against each other and the inside of the pipe.

To keep the density and hence the transport speed of the gas constant, it is compressed in gas compressors.

These are the core of the eleven GASCADE compressor stations that are spaced at around 250 kilometers apart in the pipeline network.

## **What happens in the compressor?**

Several impellers are securely arranged behind each other on a rotating, cylindrical shaft in a steel casing and rotate at a speed of up to 3,600 and 10,300 revolutions per minute. This spins the molecules of the inflowing gas outward, thus compressing them more densely together. The compressors are driven by gas or electric motors located in enclosures in compressor houses for the purpose of noise control. The gas' volume is reduced when it is compressed. That means more energy can be transported through the pipeline. The pipeline's capacity increases – and so does supply security for customers.

## MALLNOW COMPRESSOR STATION



The compressor station in Mallnow, Brandenburg, near the border with Poland, is one of the most important facilities in the GASCADE pipeline system. That's because the gas flows from it through JAGAL (Yamal Gas Pipeline Link) into the German gas pipeline network and westward. In addition, gas can be transported from Germany to Poland counter to the main direction of flow – around the clock, seven days a week. The GASCADE employees on site ensure that everything runs safely and smoothly.

### **Saving energy and compressing more efficiently**

In October 2007, GASCADE set new standards and invested around 25 million euros in a steam turbine that is driven solely by the waste heat from the three existing gas turbines. Since then, with an output of 20 megawatts, it has driven an additional gas compressor. As a result, the station's total output has risen by almost 25 percent without the need to use additional energy. Up to 3.34 million cubic meters of gas per hour can be transported. That's more than a third of Germany's gas requirements in the same period.

The station, spread over an area of around 4.8 hectares, includes four compressor buildings, five gas drying plants, a gas quality and gas metering station, a waste heat boiler and air condenser, a utility and an operations building, and a workshop.

# TECHNICAL INFORMATION

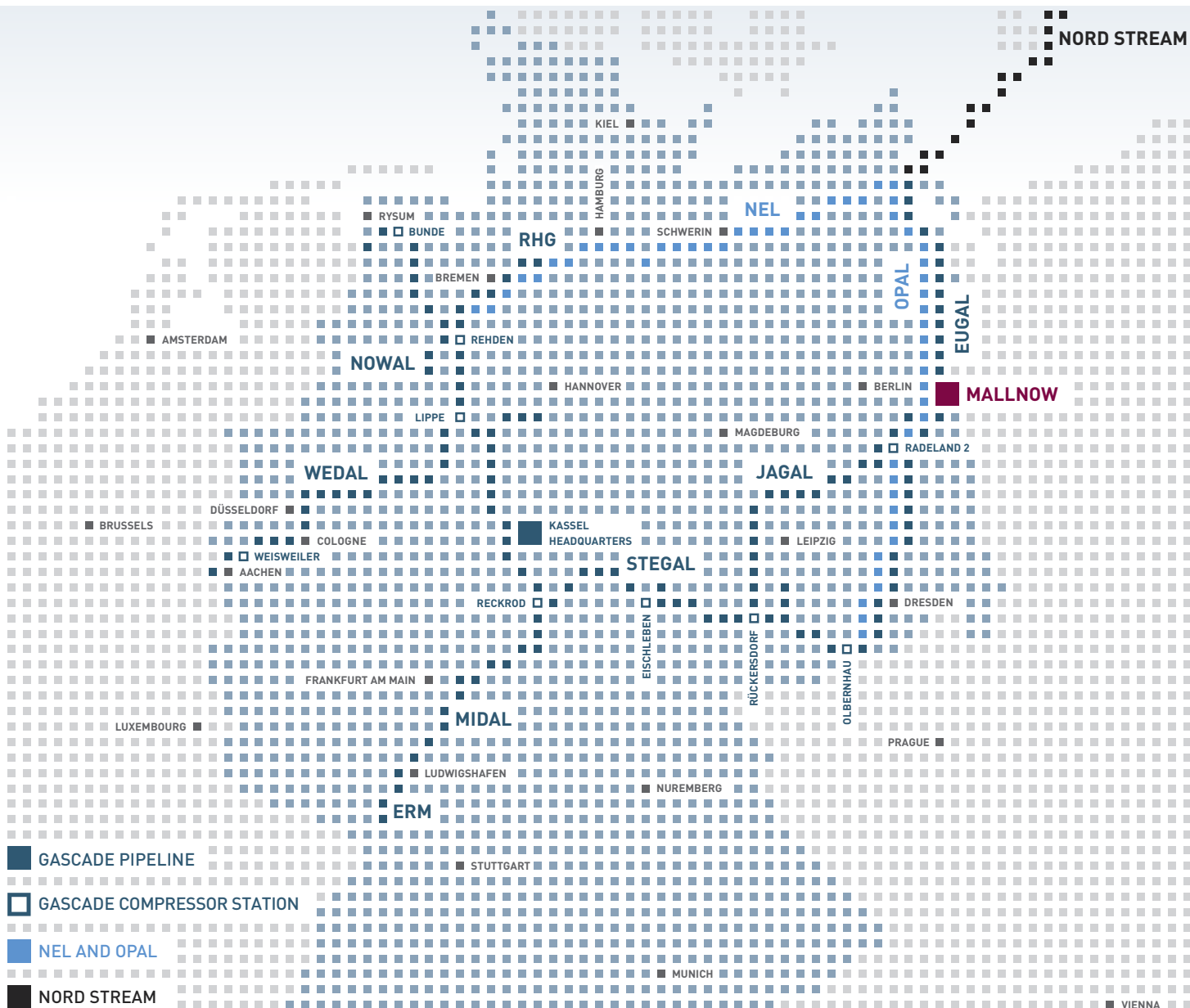


- 1 Operations building
- 2 Warehouse and workshop
- 3 Gas drying plants
- 4 Exhaust duct
- 5 Compressor buildings with gas turbines
- 6 Waste heat exchanger
- 7 Steam turbine
- 8 Air condenser

## TECHNICAL DATA

Compressor output	96.2 megawatts (3 x 25.4 MW and 1 x 20.0 MW)
Number of compressors	4
Type of drive	FT8 gas turbine Steam turbine
Max. operating pressure	100 bar
Capacity (m <sup>3</sup> /h at normal conditions)	3.34 million
Commissioned in	11/96

# GASCADE'S PIPELINE NETWORK



# CONTACT

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