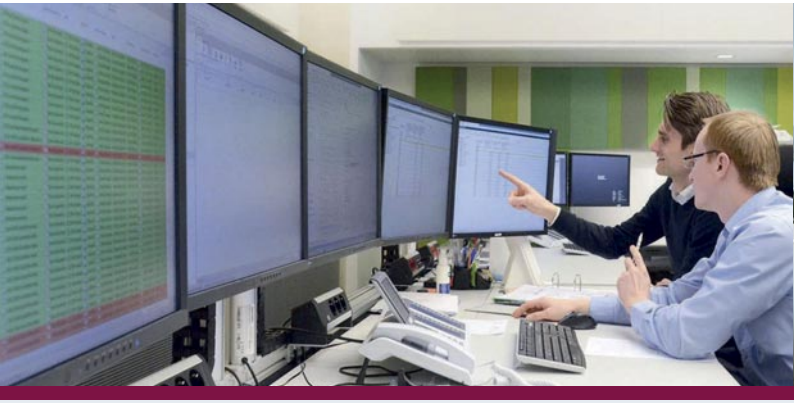
GASCADE

THE GAS COMPRESSOR STATION LIPPE

NATURAL GAS FOR EUROPE

On the path to climate-neutral supply with renewable energies, in other words, solar, wind and water, gas plays an important supporting role in Europe, since it acts as a bridge, scoring points with its large reserves, low emissions and secure transport routes. And GASCADE guarantees the latter: We make sure that gas within Germany's borders reliably reaches its respective destinations. After all, while both industrial and private demand for gas is going up, the production volume within Europe is going down. That's why gas in our pipeline network moves from the major sources in Russia and Northwest Europe both to consumers in Germany and its neighboring countries of Belgium, France, the Netherlands, Poland and the Czech Republic, and on to Southeastern Europe.

PRESSURIZING GAS



From the source to where it's used, natural 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 natural gas compressors.
These are the core of 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.

LIPPE COMPRESSOR STATION

The Lippe compressor station is located near Teutoburg Forest, southwest of the town of Bad Salzuflen. It is where the MIDAL (Central Germany Pipeline Link) and WEDAL (West Germany Pipeline Link) pipelines meet. Gas can be sent from here in all directions.

A total of three compressors connected in a row compress the gas to generate higher pressure in the pipelines. This compression process allows WEDAL, for example, to transport considerably more gas.

A maximum capacity of 1.2 million cubic meters of natural passes through the station per hour. By comparison: The average European household uses around 2,700 cubic meters per year.

Safe on site

To make sure this gas reaches the respective destinations safely, the GASCADE employees in Lippe, in addition to the compressor station, also look after and monitor sections of the MIDAL and WEDAL pipelines covering a length of 456 kilometers.

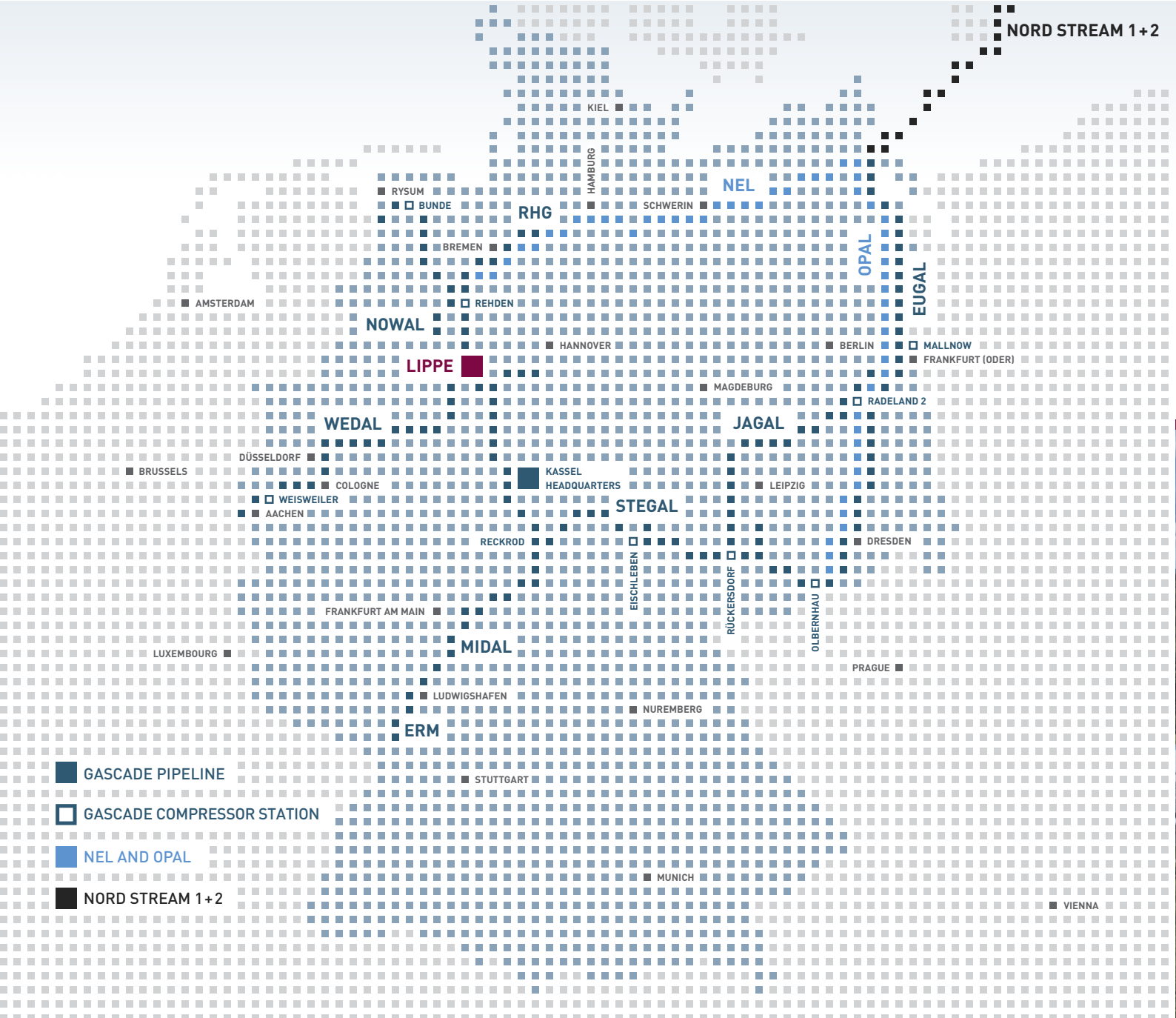
The compressor station has been connected to the network since 2006 and was expanded in 2013. The site covers eight hectares and, alongside the three gas compressors, has a utility and an operations building, and a workshop.

TECHNICAL INFORMATION

1 Fuel gas conditioning and warehouse
2 Service building and workshop
3 Compressor buildings
4 Gas coolers

TECHNICAL DATA	
Compressor output	40.8 MW (2 x 12.9 MW and 1 x 15 MW)
Number of compressors	3
Type of drive	Gas turbine SGT-400
Max. operating pressure	100 bar
Capacity (m^3/h at normal conditions)	1.15 million
Commissioned in	10/06

GASCADE'S PIPELINE NETWORK



CONTACT

GASCADE Gastransport GmbH

Headquarters
Kölnische Straße 108–112
34119 Kassel, Germany
Phone +49 561 934 0
Fax +49 561 934 1208

Lippe Compressor Station
Ellernbrede
32107 Bad Salzuflen, OT Lockhausen, Germany
Phone +49 5222 369694 2601

www.gascade.de