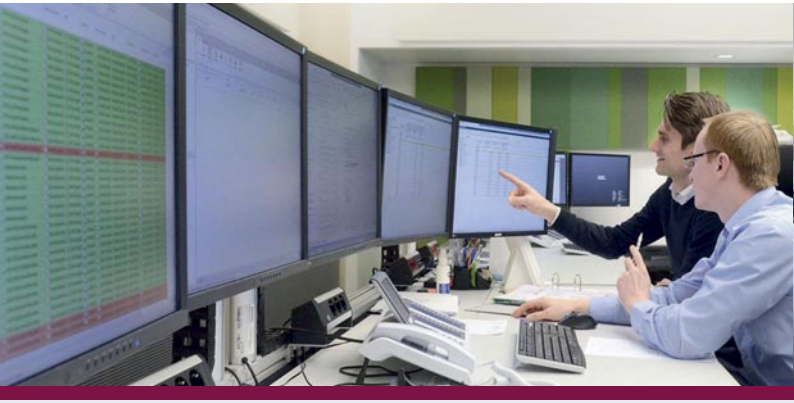
GASCADE

THE GAS COMPRESSOR STATION EISCHLEBEN

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 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.

EISCHLEBEN COMPRESSOR STATION

Three gas turbine-driven compressor units in Eischleben close to Erfurt, the capital of the federal state of Thuringia, have been ensuring the right pressure in the GASCADE pipeline network since 2006. Over an area of 7.5 hectares in total are, alongside the compressor buildings, a utility and an operations building.

Link between STEGAL and MIDAL

This location plays an important role in the transportation of gas through STEGAL (Saxony-Thuringia Gas Pipeline). The pipeline is 314 kilometers in length and connects Olbernhau with MIDAL (Central Germany Pipeline Link) near Reckrod in Hesse.

The STEGAL loop went on stream in March 2006 to satisfy growing demand for import capacities for gas. The Eischleben station is located on this parallel route. As purely a pressure-boosting station, it was connected to the GASCADE network in spring 2005. Three gas turbines of different types with a total combined output of 85 megawatts can compress up to 1.9 million cubic meters of gas an hour here from around 50 to 90 bar. By comparison: The average household uses around 2,700 cubic meters per year.

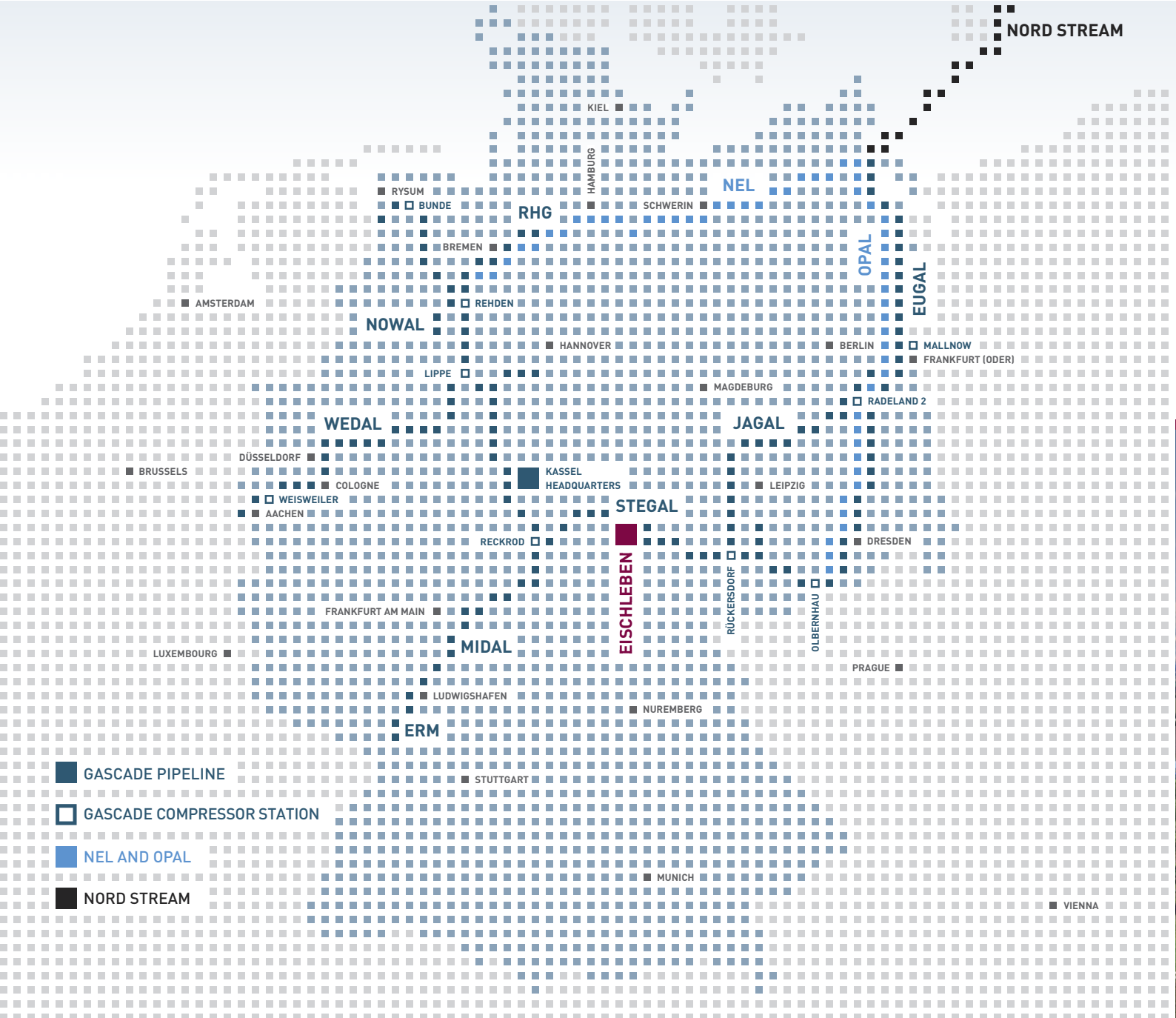
The GASCADE employees at the Eischleben site ensure that everything runs smoothly.

TECHNICAL INFORMATION

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

TECHNICAL DATA	
Compressor output	Approx. 85.4 megawatts (2 x 30 MW and 1 x 25.4 MW)
Number of compressors	3
Type of drive	Gas turbine SGT 700, gas turbine FT8
Max. operating pressure	90 bar
Capacity (m^3/h at normal conditions)	1.91 million
Commissioned in	04/05

GASCADE'S PIPELINE NETWORK



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