

Stolberg Smelter

Germany

Fast Facts

Technology:
Most energy-efficient lead smelter in Europe (QSL-technology), Bayqik-process for waste gas treatment and state-of-the-art silver plant.

Products:
Lead and lead alloys, doré silver, sulphuric acid, copper by-products.

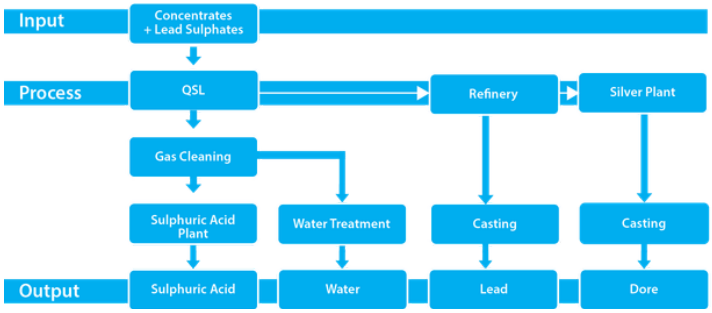
Employees:
300



Location

The Nyrstar Stolberg smelter is located centrally in Europe. It is situated in Germany, near Aachen and close to the borders with the Netherlands and Belgium. Input materials are transported to the plant from all over the world via overseas harbours by rail and trucks.

PRODUCTION PROCESS AT Stolberg



HISTORY

The Stolberg site has been engaged in lead smelting operations since 1848.

In 1990, QSL technology was introduced at the site, establishing technological leadership in the multi-metal smelting of lead concentrates and secondary raw materials. QSL technology enables the extraction of lead, silver, gold, and copper within a single enclosed unit, with significantly lower specific energy consumption than conventional technologies.

Since 2000, Stolberg has continuously invested in environmental sustainability and process technology, steadily reducing emissions and effluents while operating alongside surrounding protected natural areas. In 2016, a new silver plant was commissioned, increasing annual silver production capacity.

Today, Stolberg is one of the largest primary lead smelters in the world and the second-largest producer of silver doré in Germany. The plant is one of only two remaining primary multi-metal lead smelters in the country.



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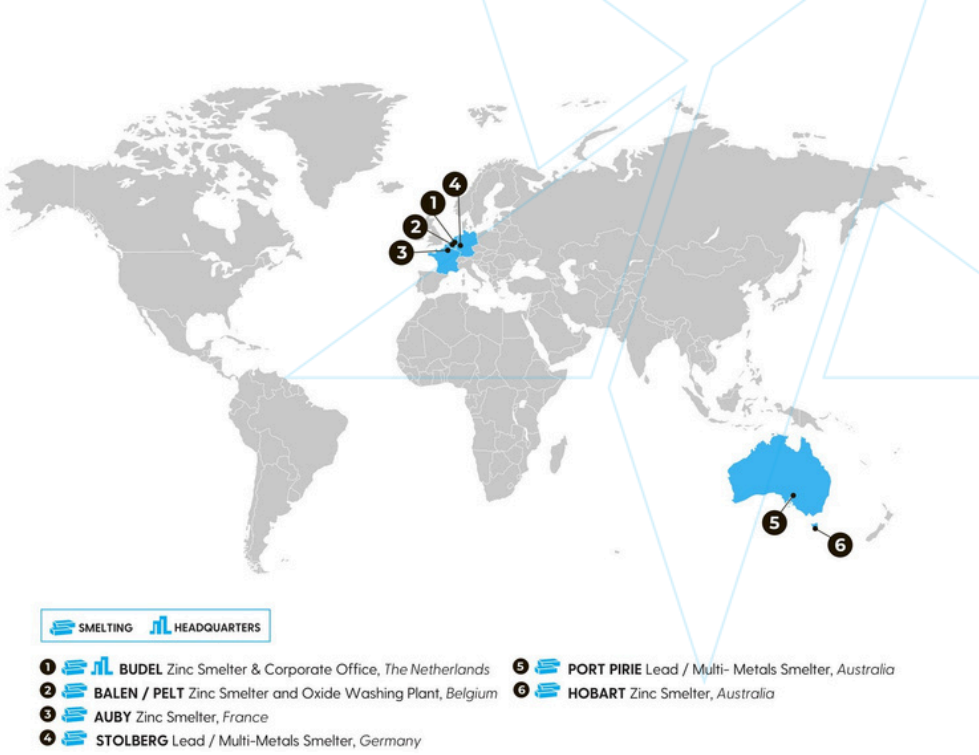
Resources for a changing world





NYRSTAR OVERVIEW

Nyrstar, headquartered in the Netherlands, is a leading international producer of industrial and critical minerals and metals essential to the energy transition, high-technology applications and regional security.

With a market-leading position in zinc and lead, the company operates interlinked smelting and related facilities across Europe and Australia, employing more than 3,000 people.

Nyrstar's operating business is wholly owned by Trafigura, a leading global commodities group providing critical resources to the world.

ENERGY EFFICIENT

The Nyrstar Stolberg smelter is one of the world's most advanced, clean, and energy-efficient lead smelters. Its encapsulated single-step process helps protect the environment by maintaining consistently low emissions and energy consumption.

Heat from the waste gas is converted into steam, which generates more than 50% of the site's electrical power demand.

The input materials are processed sustainably throughout the entire Nyrstar Stolberg plant. They are homogenized and then smelted using the QSL process. Liquid lead at a temperature of nearly 1,000°C is continuously tapped from the QSL oxidation zone and pre-de-copperized in cooling kettles.

Further treatment is carried out in the refining process. Lead is processed in 29 kettles, where individual impurities are selectively removed from the lead bullion in up to nine steps. The resulting lead and lead alloys are produced according to specific customer requirements. In the silver plant, doré silver anodes are produced through three consecutive refining steps. They are then sold to gold and silver refineries for further processing.

The site supports industrial value creation and skilled employment while pursuing a decarbonisation pathway with the potential to further reduce CO_2 emissions.







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