FACTSHEET

BOB – **B**leed treatment **O**len **B**eerse

State-of-the-art facility to recover valuable metals from bleed

At its site in Olen (Belgium), Aurubis is investing about € 70 million in the construction of an innovative and energy-efficient bleed treatment facility. In a hydrometallurgical process, BOB will recover valuable metals such as nickel and copper contained in electrolyte streams that are generated in metal production at the Aurubis sites in Beerse and Olen (both in Belgium). The installation consists of a complete tankhouse purification system that is known as bleed treatment. The construction of the facility is scheduled to begin in September 2022 and commissioning is planned for summer 2024.

Commitment to sustainable growth and efficient production

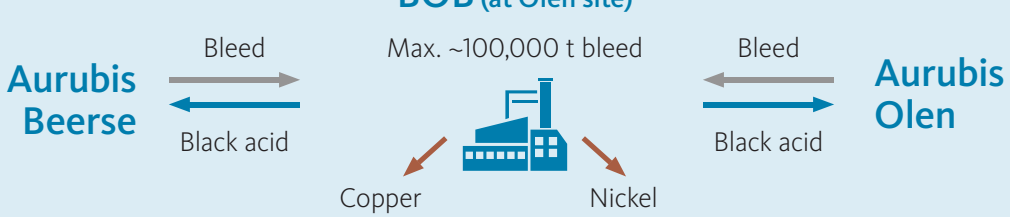
Looking at the overall material flow, it is a strategic match to carry out this project in Olen. With BOB, Aurubis is gaining more control of the multimetal value chain and optimizing the Group-wide material flow by processing electrolyte streams from Beerse and Olen completely in-house. The state-of-the-art facility makes production faster, more efficient, and more sustainable, as it minimizes valuable metals loss and increases the responsible use of resources. Integrating BOB into the Aurubis production processes is another important example of how Aurubis contributes significantly to the European circular economy. The facility strengthens the Group's position as the world's most efficient and sustainable multimetal producer.

The process chain

In a four-step-process, valuable metals are recovered and impurities are removed from the bleed.

1. Recovery of copper by evaporation and crystallization
2. Recovery of copper by traditional electrowinning
3. Recovery of nickel by evaporation and crystallization
4. Removal of remaining impurities

Optimization of material flows



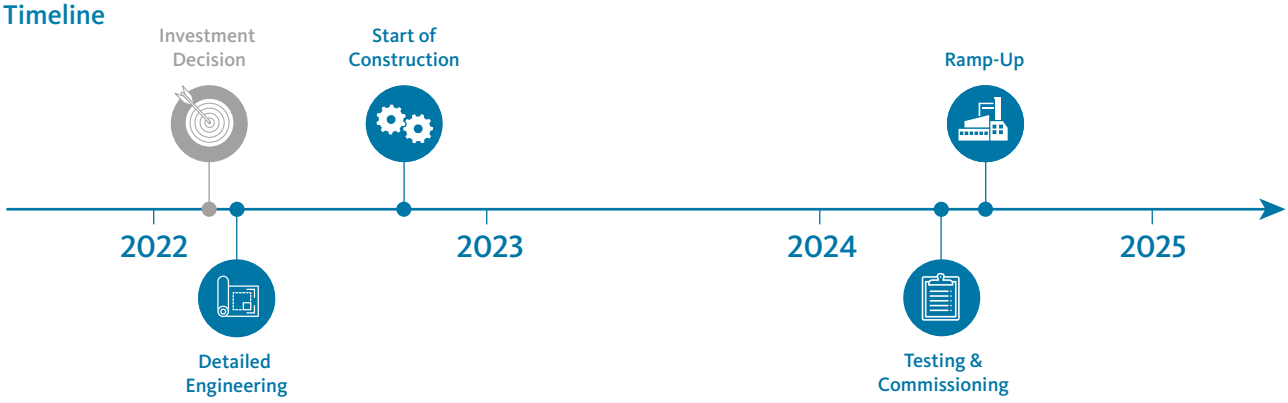
Bleed:

Bleed refers to the part of tankhouse electrolyte that is continuously being purged: as some metals dissolve in electrorefining tankhouse electrolyte, the purge is necessary to keep the level of metals under control and stable. This purge is compensated by adding a mixture of water and sulfuric acid to the electrolyte again. With BOB, copper, nickel, and impurities can be purified from the bleed.

Black acid:

After metal recovery from bleed, a mixture of mainly water and 60-70 % sulfuric acid remains. This mixture is called black acid. It may be diluted with water to serve as electrolyte again for the electrolysis process in the tankhouse.

Timeline



The project at a glance

Advanced **hydrometallurgical process** for treating electrolyte containing nickel and copper	Handling material from **Beerse** and **Olen**	Greater recovery of **copper** and **nickel**	**Long-term strengthening** of core recycling business
Investment volume of **€ 70 million** EBITDA **~ € 15 million** p.a. starting in 2025/26	Commissioning: **Summer 2024**	Design capacity: **Max. ~100,000 t bleed**	Additional **35 local jobs**

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