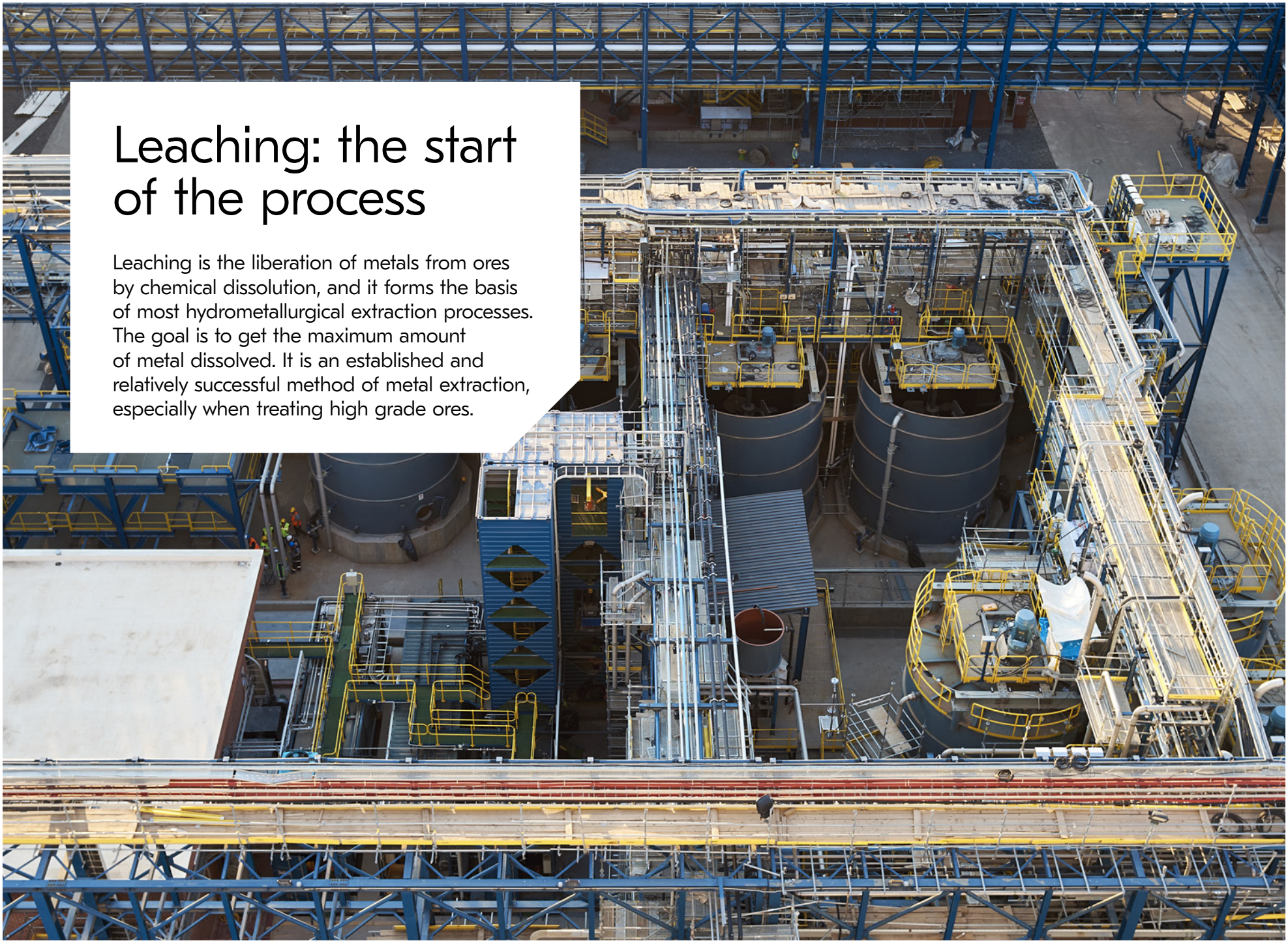
Metso:Outotec

Ensuring optimal recovery

Leaching



Leaching: the start of the process

Leaching is the liberation of metals from ores by chemical dissolution, and it forms the basis of most hydrometallurgical extraction processes. The goal is to get the maximum amount of metal dissolved. It is an established and relatively successful method of metal extraction, especially when treating high grade ores.

Metso Outotec leaching capabilities

At Metso Outotec, we provide versatile leaching methods suitable for your plant: from chloride to sulfate leaching and from atmospheric to pressure leaching. Our metallurgical knowledge and experience enable us to optimize design, process conditions and equipment. We can ensure that metal recovery is high despite limiting parameters.

Metso Outotec offers you leaching solutions for greenfield and brownfield plants. The flexibility and adaptability of our technologies ensure that our solution fits your requirements. Health and safety issues are essential elements of Metso Outotec leaching technologies. We ensure that our technologies are easy to control and have a low maintenance requirement. Metso Outotec's leaching methods offer you an economically viable solution, which produces high-yield products efficiently.

Core differentiators

Versatile leaching methods

High metal recovery despite limiting parameters

Flexible and adaptable technology

Economically viable solutions

Leaching solution for greenfield & brownfield plants

Easy and safe to control with low maintenance

Minimized operating risks throughout the plant lifetime

Lower investment, installation and operational costs

Industry's most comprehensive scope of supply

Our solution may include mineral processing, innovative reactor and process technology for atmospheric leaching either in sulphate or chloride media and pressure leaching, depending on the raw materials. This may be followed by Metso Outotec's SX and EW technology. A total process design by Metso Outotec facilitates economical metal production, especially from low-grade deposits that would not otherwise be viable using traditional metallurgical processes.

Core

OKTOP® reactors

OKTOP® agitators

OKTOP® autoclaves

Leaching plant core basic engineering

Enablers

Generic and tailored Geminex™

Courier analyzer

Cooling tower

Ventilation gas scrubbers

Instrumentation

SandSense

Filters

Thickeners

Services

Spares

Startup

Troubleshooting

Flowsheet development and studies

Kinetic batch testing of leaching

Pilot testing

Why choose Metso Outotec Leaching process

Versatile portfolio
Several leaching process options are available for the hydrometallurgical treatment of ores and concentrates

High recoveries
IIndustry leading sulphate-based atmospheric and pressure leaching is the key to guarantee high recoveries of nickel, cobalt, zinc and precious metals

Sustainability
Energy and resource efficient leaching process and proprietary equipment

Eti Bakir A.S. fertilizer plant, Turkey

Promising results

Challenge

- Phosphorous ore is dissolved in sulfuric acid produced in Metso Outotec Sulfuric Acid Plant, treating the off-gases from the Metso Outotec Pyrite Roasting process
- The phosphoric acid is then further treated to produce fertilizers

Solution

- The calcine from the roaster is further treated in Metso Outotec Calcine Pressure Leaching Plant, where considerable amounts of cobalt, copper, zinc, gold, and silver are recovered from the calcine using several Metso Outotec hydrometallurgical processes and pieces of proprietary equipment.

Results

- The plant was commissioned in a relatively short time and the process was stabilized to produce the correct amount of end product with the required quality
- The entire hydrometallurgical leaching plant's income is extracted in Metso Outotec reactors.

Metso Outotec is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By improving our customers' energy and water efficiency, increasing their productivity, and reducing environmental risks with our product and process expertise, we are the **partner for positive change.**

Metso:Outotec

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