Boskalis Environmental
Rosmolenweg 20
PO Box 76
3350 AB Papendrecht
The Netherlands

dolman@boskalis.com
T +31 78 6969900
F +31 78 6969901

www.boskalisenvironmental.com

Princeton, New Jersey office
212 Carnegie Center, Suite 200
Princeton, NJ 08540
United States of America

info@stuyvesantenvironmental.com
T +1 609 897 0800

Beijing office
Shougang International Building, Room 910
Xizhimen North Street
Haiden District
Beijing 100088
China

T +86 10 8229 2361, 62, 63

Boskalis
Environmental

ENVIRONMENTAL CONTRACTING

A PROVEN NAME IN ENVIRONMENTAL CONTRACTING

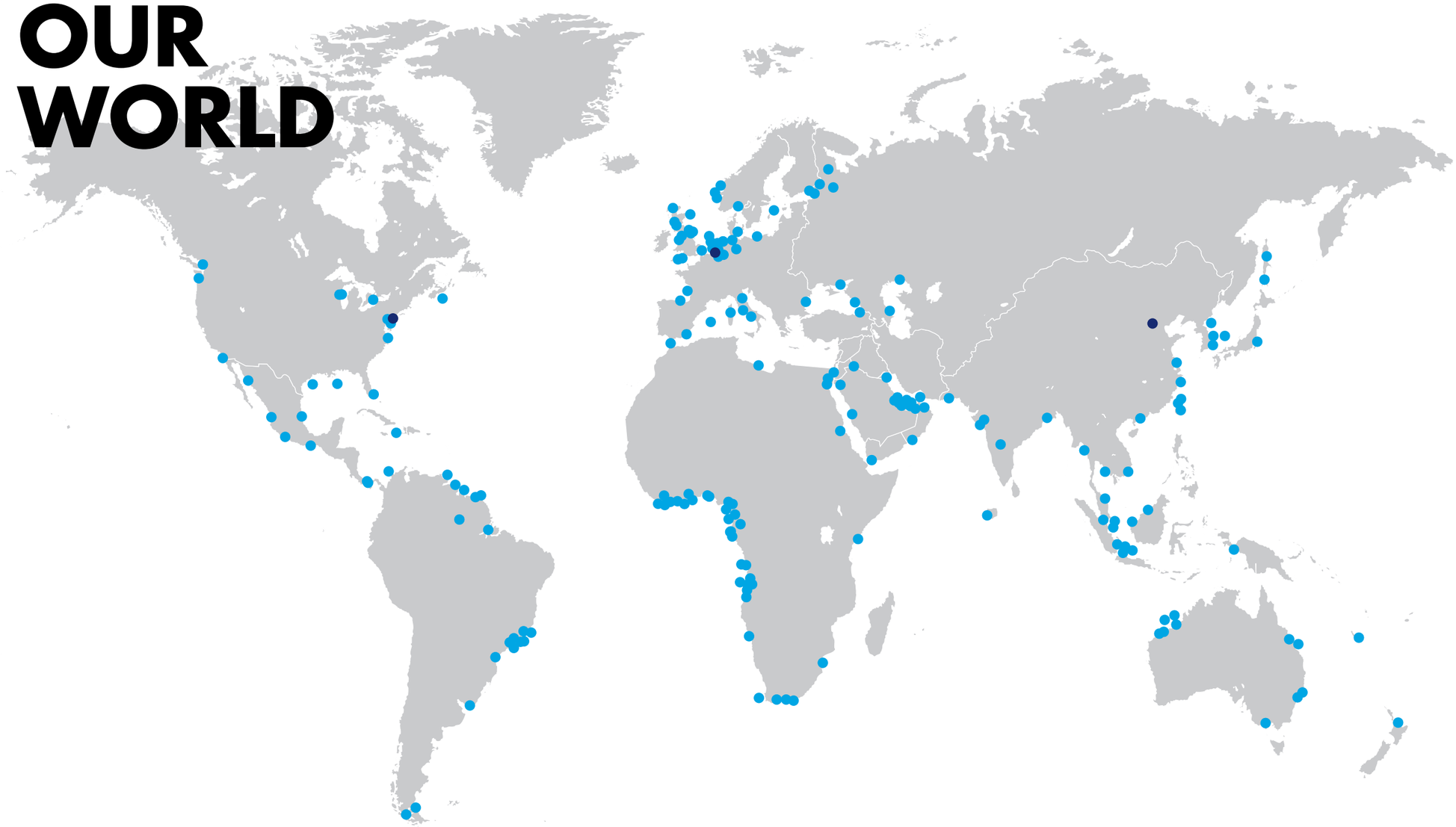
With safety as our core value we provide innovative, sustainable and comprehensive solutions for our clients in the environmental soil remediation market.

Boskalis Environmental is active throughout the world with soil washing, processing of dredged sediment, land and riverbed remediation, the beneficial use of separated aggregates, and disposal facilities management. Boskalis Environmental's parent company is Royal Boskalis Westminster, a leading global dredging and marine expert.

Boskalis Environmental works across the globe as:

- Boskalis Dolman bv
- Stuyvesant Environmental Contracting LLC
- Stuyvesant Projects Realization Inc

OUR WORLD



OUR SOLUTIONS INCLUDE

CONTAMINATED SOIL TREATMENT

CONTAMINATED DREDGED SEDIMENT MANAGEMENT

LAND AND RIVERBED REMEDIATION

RELATED ACTIVITIES

SAFE AND SUSTAINABLE

The added value of our work extends beyond the provision of services. With safety as our core value we have uncompromisingly embraced safety within our corporate culture. This is the essence of '*NINA*', our No Injuries, No Accidents safety program.

Since our very beginning the Boskalis Environmental approach has targeted the optimization of environmental benefits, while keeping project costs and disruption to local stakeholders at a minimum. We have implemented this sustainable approach by consistently aiming to achieve beneficial use of our end products. We also work continuously on improving our technologies and we have been relentless in our attempts to optimize the scale of our operations.

Our Dutch soil washing locations are an excellent example of our sustainable approach. Over a period of more than fifteen years, half a million tons of soil have been recycled every year at these sites, primarily by soil washing. Using an integrated project approach, thorough prior inspections and consistently proven technologies, we have also demonstrated our ability to manage potential project risks.

Our operations comply with international, national, and regional legislation and regulations regarding environmental risks. Our environmental performance is constantly being monitored and improved, and we proudly maintain ISO 14001:2004 certification for our environmental management system. Listed below are our other relevant certifications.

STANDARDS OF EXCELLENCE

- ISO 9001 International Quality Management System
- ISO 14001 International Environmental Management System
- OHSAS 18001 International Occupational Health and Safety Management System
- SSC Safety Certificate Contractors

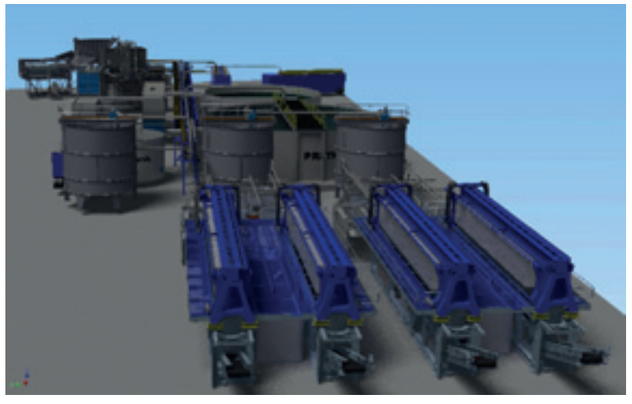
OUR ABILITY TO MANAGE COMPLEXITY

'INVOLVE US EARLY ON AND WE CAN IMPROVE YOUR PROCESSES, MITIGATE RISKS AND MINIMIZE UNCERTAINTIES'

With our design and engineering capabilities we can supply integrated project solutions and execute multifaceted projects.

- In the **pre-design** phase we can determine the feasibility of your project, recommend the most cost-effective technical approach and help mitigate risks.
- As a **team player**, we streamline processes by providing valuable input to the design engineering, managing the operations of our plant, and supporting communication with all project stakeholders.
- Our highly s**pecialized techniques** have been developed in-house. Our plants and equipment are unique, built by us to meet the needs of our clients.
- We have our own **in-house laboratory** as well as mobile laboratory units to perform a variety of analyses and to monitor quality.

PASSAIC RIVER PROJECT, NEWARK, USA
The transportable membrane plate and frame presses at the site of the Passaic River Phase I Removal.



bottom left
THE NETHERLANDS
Boskalis Environmental has its own dedicated laboratory that undertakes research activities such as sampling, geotechnical and environmental surveys, physical analysis and treatability studies.

bottom middle
UNITED STATES OF AMERICA
3D animation of the Passaic River project site in Newark, New Jersey.

bottom right
CONTROL ROOM, THE NETHERLANDS
Inside view of the control room at a Soil Treatment Center.

CONTAMINATED SOIL TREATMENT

‘WE MANAGE THE ENTIRE PROCESS, FROM PRE-INVESTIGATION AND PROCESSING TO RE-USE OF THE VARIOUS MATERIALS IN INFRASTRUCTURE PROJECTS’

top middle
TORONTO, ONTARIO, CANADA
Construction of the Mobile Soil Washing Plant, for the Toronto Soil Recycling Demonstration Project.

Boskalis Environmental is a leading contractor in the large-scale processing, recycling and beneficial use of mineral waste materials. Recyclable mineral waste includes contaminated soils and sediments, railway ballast material, street sweepings and incinerator bottom ash. The main processing technology used is soil washing.

Our worldwide operations are typically project-driven and involve on-site operations. We can deploy, install and operate our mobile plants on short notice for these projects.

In the Netherlands, legislation and soil conditions have enabled us to develop a unique and sustainable approach based on four fixed locations for off-site operations. Clients can deliver large and small volumes of contaminated soil to these Soil Treatment Centers (STCs) for a fixed and pre-determined price, including a full liability transfer. At our Dutch STCs, more than 600,000 tons of materials are accepted, processed and recycled annually.

SCHIEDAM, THE NETHERLANDS
Sand (useful aggregate) from one of the permanent soil treatment sites in the Netherlands is being transported from the site.

CONTAMINATED DREDGED SEDIMENT MANAGEMENT

The large-scale processing and disposal of contaminated dredged sediments are always challenging. Boskalis Environmental is particularly skilled in projects where separation and dewatering is the optimal solution. We are always aiming to maximize the re-use of the processed material as aggregates, and to minimize the volume of the contaminated residues for ultimate disposal.

Our purpose-built specialized equipment allows us to deliver the most suitable processing options for a wide range of different projects. The earlier we are involved in a project, the more value we can add in addressing the challenges of processing contaminated dredged sediment.

DEPOT MANAGEMENT

Over the past twenty years, Boskalis Environmental also specialized in the design and management of large dredging depots (such as Confined Disposal Facilities or CDFs). These depots are sometimes used for the temporary storage of dredged sediments before being processed into building material. This is often necessary in areas where sediments cannot be processed immediately simply because of the large quantities of dredged material.

bottom left
ROTTERDAM, THE NETHERLANDS
Aerial view of the 'Slufter' Confined Disposal Facility. The 'Slufter' is a large scale CDF for the disposal of contaminated sediments.

bottom middle
MIAMI, FLORIDA, UNITED STATES OF AMERICA
Aerial view of the Mobile Soil and Sediment Washing Plant including belt filter presses for the Miami River 15 feet Maintenance Dredging project.

bottom right
AMSTERDAM, THE NETHERLANDS
Regional sediment management facility at the Jan van Riebeeck Harbor in Amsterdam.

LAND AND RIVERBED REMEDIATION

top left
ROTTERDAM, THE NETHERLANDS
Execution of a land remediation project for Esso in the port of Rotterdam.

top middle
AMSTERDAM, THE NETHERLANDS
Aerial view of the advanced dredging and upland sediment management project in the Petroleum Harbor.

LAND REMEDIATION

Land remediation is usually part of the cleaning-up and redevelopment of industrialized, contaminated sites: 'brownfield' sites. Boskalis Environmental is active in this type of complex land remediation. Our customized equipment, designed by our own engineers, enables us to implement the best possible remediation option, if necessary including the deployment of our mobile soil washing plants to wash the excavated soil on site.

RIVERBED REMEDIATION

Boskalis Environmental has established a worldwide reputation in a wide range of water-based remediation works, involving a combination of dredging, processing, re-use and disposal.

Our clients benefit from our ability to implement the full remediation process from the design stage right through to execution. In many instances we have participated in risk/ reward-sharing approaches. Our early involvement in a project helps to ensure a more comprehensive and effective response to complex issues.

GOUDERAK, THE NETHERLANDS
A brownfield development: the Zellingwijk, a residential area contaminated with oil, pesticides, tar and heavy metals.

RELATED ACTIVITES

Our knowledge and experience gained from many years of processing of soils and sediments is also being used on a number of related operations and activities.

CLEANING INCINERATOR BOTTOM ASH
We have developed a treatment technology to separate organics, salts and metals (both ferrous and nonferrous) from incinerator bottom ash, a residual product from waste-to-energy plants. This treatment recovers approximately 80% of the bottom ash for unrestricted beneficial use under Dutch regulations.

LARGE-SCALE DEWATERING OF MINE TAILINGS
In close cooperation with Boskalis and Cofra, we are developing sustainable dewatering processes to reclaim large-scale tailings ponds.

PROCESSING OF TUNNELING MUDS AND DRILLING FLUIDS
Muds from tunneling projects and fluids from drilling operations are also separated and dewatered. Sandy materials are recovered for beneficial use, while the fines are dewatered to reduce the total weight for disposal.

SEPARATION AND GRADING OF RAW BULK MATERIALS
Our separation technology can also be used to upgrade raw bulk materials. An example is the development of offshore separation and grading of phosphate rich nodules and sands before transport to a land-based chemical processing facility.

ALKMAAR, THE NETHERLANDS
Regional facility for processing incinerator bottom ash.

EQUIPMENT

Our engineers have developed transportable equipment for worldwide on-site operations using standard sized container units and skids. Once installed and connected with each other on site, the units are transformed into a full-scale processing plant.

MOBILE SOIL WASHING PLANT (MSWP)
Our Mobile Soil Washing Plants are constructed using approximately 25 to 30 container units with a footprint of approximately 2,500 square meters, or slightly more than half an acre. The proven throughput capacity is around 75 to 100 tons per hour.

MOBILE DEWATERING EQUIPMENT
Belt filter and membrane presses are used for our mechanical dewatering operations. Each unit is designed to dewater approximately 5 to 15 tons of solids per hour – depending on feed material characteristics.

One of our Mobile Sediment Dewatering Plants operates with 4 membrane presses and has a daily production capacity of approximately 1,000 cubic meters.

TEST AND PILOT EQUIPMENT
We have an in-house lab for geotechnical soil investigation and treatability tests:
- Fully equipped laboratory at our head offices in Papendrecht, Netherlands
- Mobile lab units for on-site quality checks
- Cone Penetration Testing equipment (CPT) for stability, monitoring and compaction testing
- Soil sampling equipment (drilling rig and vibro core)
- Containerized Dewatering Research and Test Unit (DRTU)

Whether controlling the leachability of contaminants to the groundwater or for the production of building materials, Boskalis Environmental is experienced in stabilizing soil or sediments with cement or other binding agents applicable on any scale.

top left
TORONTO, CANADA
On-site construction of Mobile Soil Washing Plant

middle
Operator at work in the Dewatering research and test unit (DRTU)

top right
MOMBASA, KENIA
On-site Cone Penetration Testing

OUR PROFESSIONALS

‘OUR PROFESSIONALS BEHIND THE TECHNIQUES’

The driving force behind our company is a very enthusiastic and dedicated team of staff. Both in the office and in the field, these professionals are continuously working on optimization, new techniques and developments to better serve our clients. Since most of our employees have been associated with our business for many years, we are able to rely on a wealth of knowledge and experience when responding to complex technical challenges.

SCHIEDAM, THE NETHERLANDS
Operational team at the permanent soil treatment site.

LET'S TALK

'TELL US ABOUT YOUR CHALLENGES'

For over 100 years, Boskalis has helped clients meet some of the toughest challenges.

How can we help you? Give us a call and tell us about your challenges. Or look at our portfolio on www.boskalisenvironmental.com. You can download the Boskalis corporate brochure and solutions brochures for Energy, Ports and Infra on www.boskalis.com.