

INFRA SOLUTIONS



'BOSKALIS IS A LEADING GLOBAL
DREDGING AND MARINE EXPERT'



A PROVEN NAME IN THE INFRA MARKET

With safety as our core value we provide innovative, sustainable and all-round solutions for our clients in the infra market.

We offer more services than any other company in our industry. Making us your one-stop solutions provider.

Our solutions cover land reclamation, coastal protection, roads & railways, inland ports & waterways, tunnels & bridges and environmental services.

Since our founding in 1910, our clients have looked to us to find cutting edge solutions to meet their specific requirements. Our track record includes a wide variety of demanding infra projects and contracts that have established our name in the infra market.

PANAMA
Construction of an artificial island in the Pacific Ocean off the densely populated shoreline of Panama City. For the island ten hectares of premier real estate land will be created.

OUR WORLD

OUR WORLD



OUR SOLUTIONS FOR THE INFRA MARKET



LAND RECLAMATION

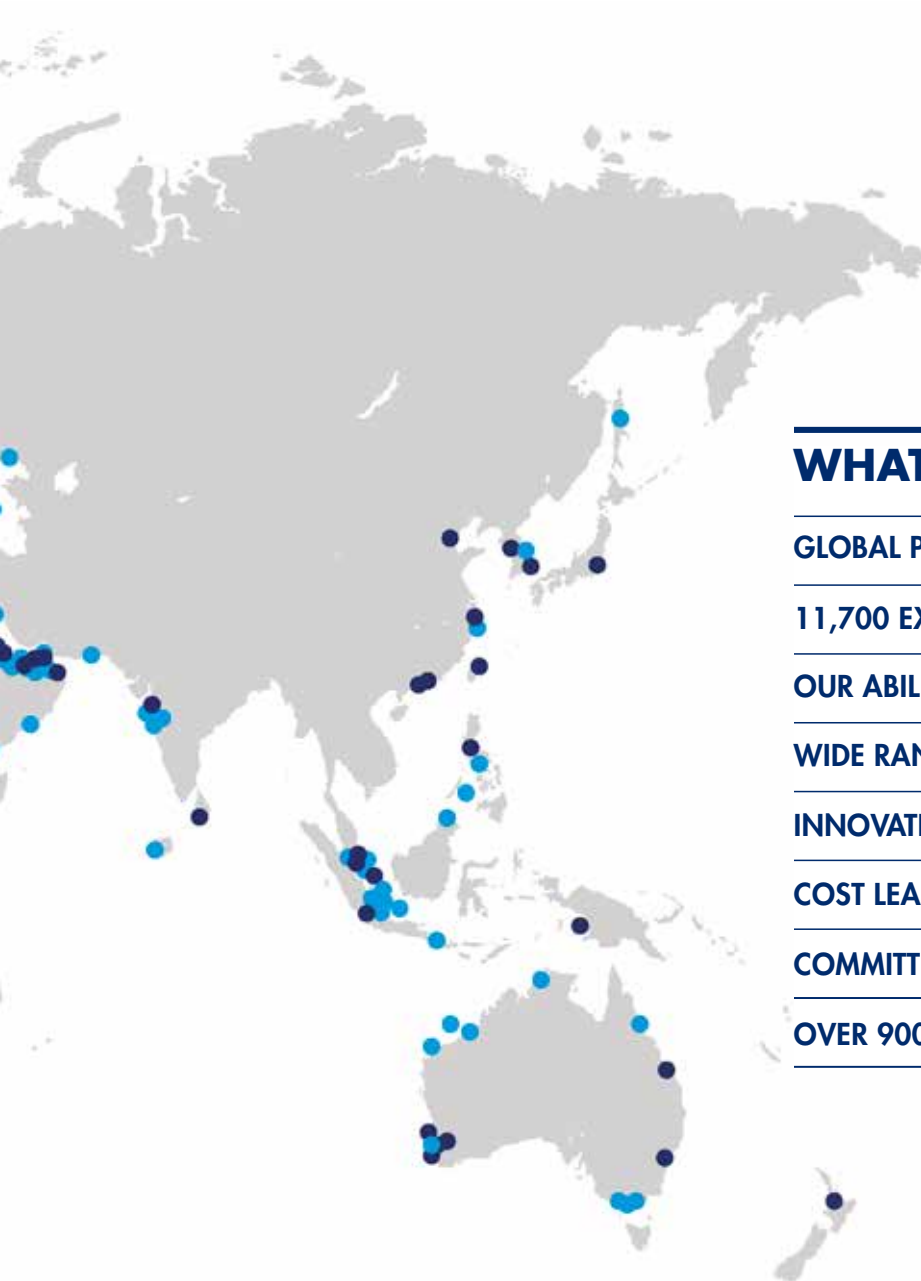


COASTAL PROTECTION



ROADS & RAILWAYS

INFRA SOLUTIONS



WHAT SETS US APART

GLOBAL PRESENCE

11,700 EXPERTS

OUR ABILITY TO MANAGE COMPLEXITY

WIDE RANGE OF INTEGRATED SERVICES

INNOVATIVE AND SUSTAINABLE SOLUTIONS

COST LEADERSHIP

COMMITTED TO SAFETY

OVER 900 MODERN AND FLEXIBLE VESSELS

- Offices
- Projects & operations



INLAND PORTS & WATERWAYS



TUNNELS & BRIDGES



ENVIRONMENTAL SERVICES

SAFE AND SUSTAINABLE

Our work goes beyond providing services. Safety has been uncompromisingly embraced within our culture and is the essence of 'NINA', our worldwide No Injuries, No Accidents safety program.

Boskalis is known for its environmental expertise and commitment to the environment. Our clients benefit from our vast experience in preparing environmental impact assessments and environmental management plans. Our state-of-the-art monitoring programs and environmentally-friendly techniques, working methods and equipment will enable you to fully comply with environmental regulations. We are also able to offer the very best cost-effective solutions for the cleaning or containment of contaminated sediment.

By building with nature, we help preserve and even strengthen environmental assets - such as coral reefs or benthic fauna - without compromising economic benefits.

STANDARDS OF EXCELLENCE

- ISO 14001 International environmental quality
- OHSAS 18001 Occupational health and safety
- ISO 9001 Business management
- IMCA Offshore operations





A TEAM BUILT AROUND YOUR NEEDS

A TEAM BUILT AROUND YOUR NEEDS



INFRA SOLUTIONS



'BOSKALIS HAS THE RESOURCES TO BUILD A GLOBAL TEAM AROUND THE CHALLENGES YOU FACE'

Our 11,700 experts are focused on achieving the best result.

In addition to a dedicated fleet crew, you can rely on our experts from a wide range of disciplines. These include hydraulic and civil engineering, ecology, finance, morphology, geology, geophysics and marine biology.



OUR ABILITY TO MANAGE COMPLEXITY

OUR ABILITY TO MANAGE COMPLEXITY



INFRA SOLUTIONS



'INVOLVE BOSKALIS EARLY ON AND WE CAN IMPROVE YOUR PROCESSES, MITIGATE RISKS, MINIMIZE UNCERTAINTIES AND DELIVER THE SOLUTIONS YOU SEEK'



- In the **pre-design** phase we can help determine the feasibility of your project.
- During the **design phase** we will create a value-optimized solution that fits your requirements.
- As your **main contractor**, we construct your infrastructure and streamline execution by managing sub-contractors and communicating with stakeholders.
- We can provide **cost-effective (long-term) operational services**.

HARDERWIJK, THE NETHERLANDS

Artist's impression of the re-development of the town of Harderwijk. The project includes moving the marina and old industrial areas to new locations and creating a prominent position for the Dolfinarium marine mammal park, complete with entrance bridges and new car parks. New homes, a beach island, promenades, a boulevard and hotels and shops will be built on the waterfront. Boskalis is involved in the planning/preparation, financing and construction phases.



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AMSTERDAM-UTRECHT, THE NETHERLANDS

Reconstruction of the A2 highway. The expansion to two 5-lane roads was achieved through the construction of a new highway next to the existing one.

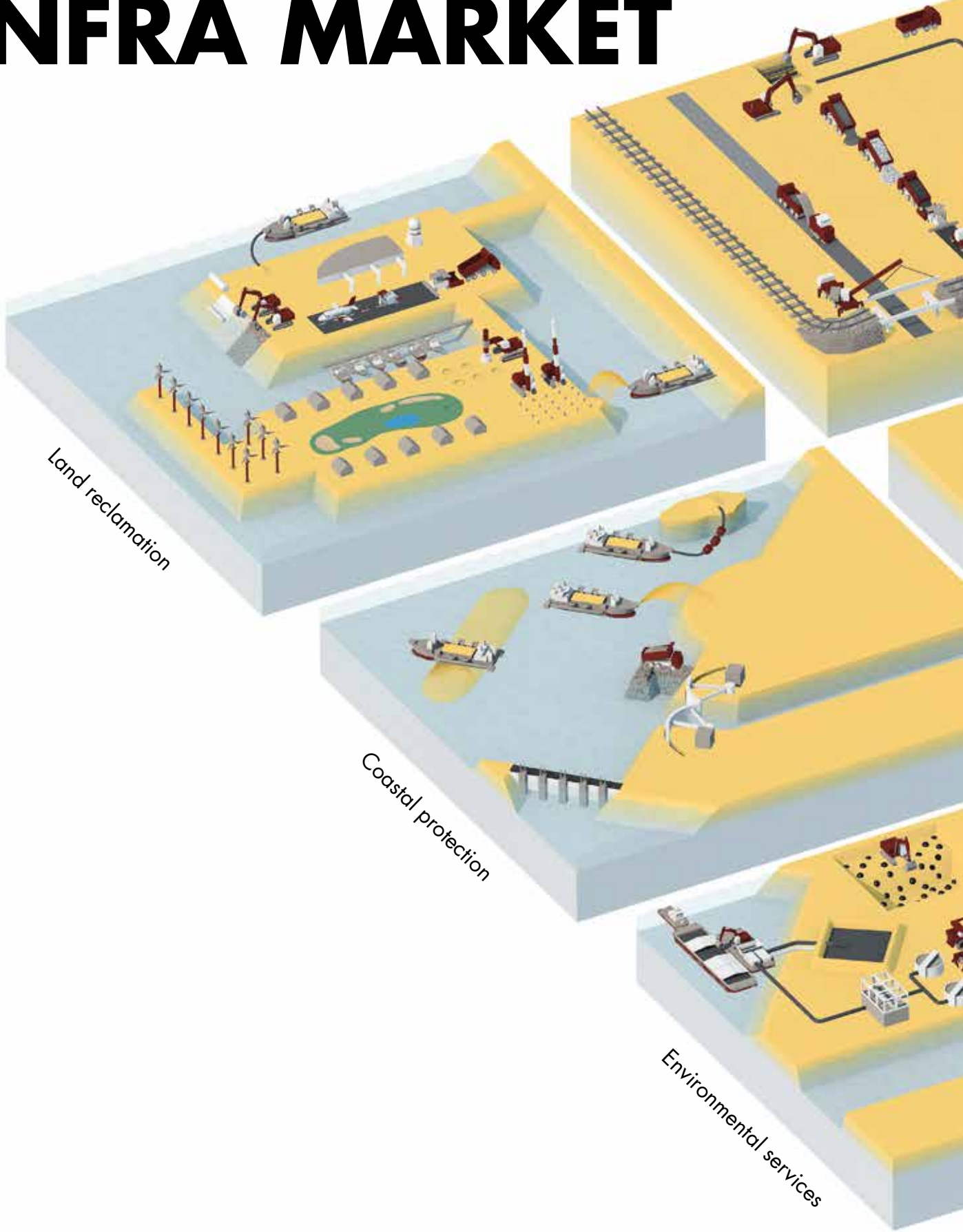
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ROTTERDAM, THE NETHERLANDS

Maasvlakte 2 Port Expansion. Innovative Design, Construction and Maintenance project. Creation of 2,000 hectares of new land with 240 million m³ of sand, 11 km of sea defense, 3.5 km of quay walls, 14 km of railways and 13 km of roads.

OUR SOLUTIONS FOR THE INFRA MARKET

OUR SOLUTIONS FOR THE INFRA MARKET

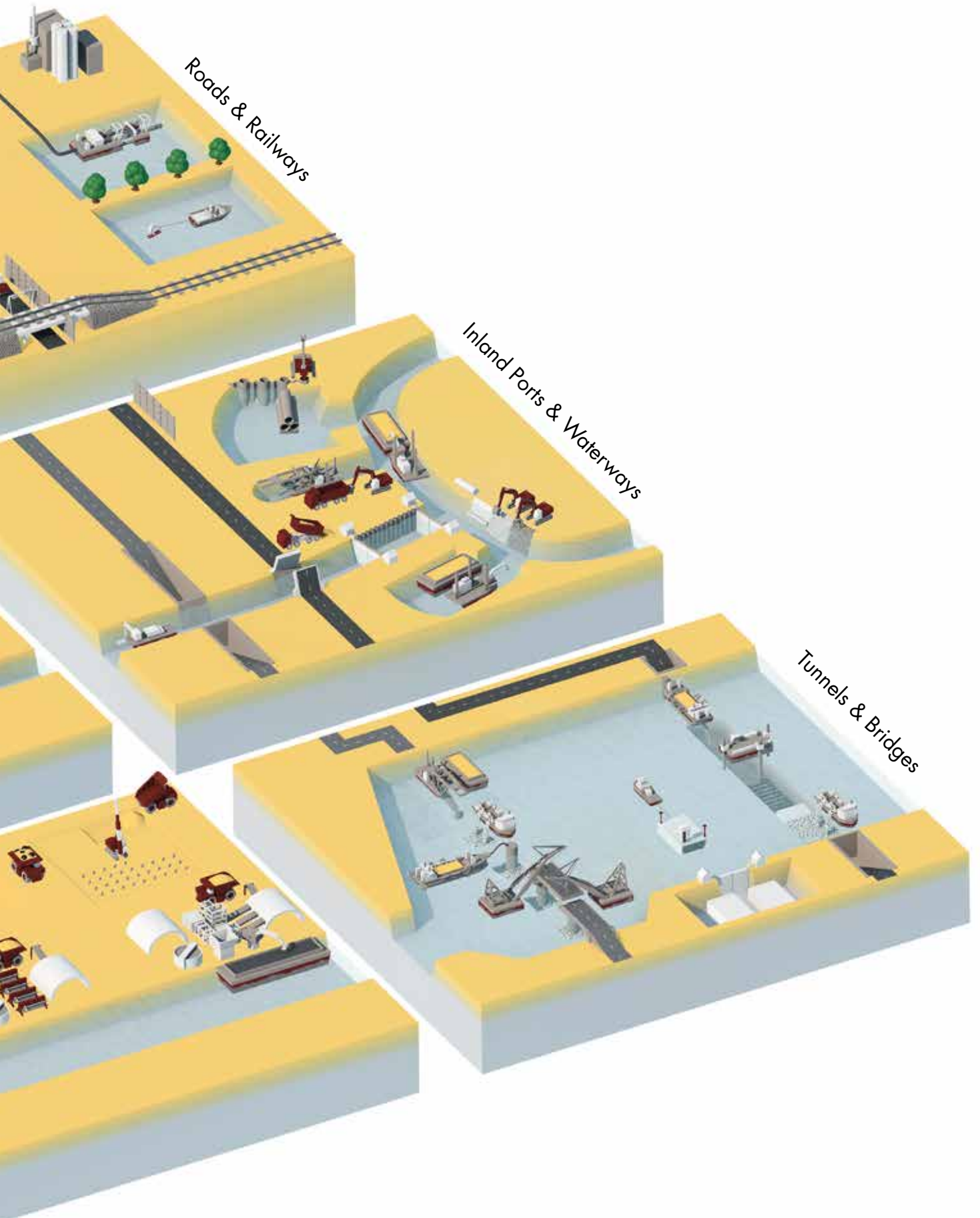


Land reclamation

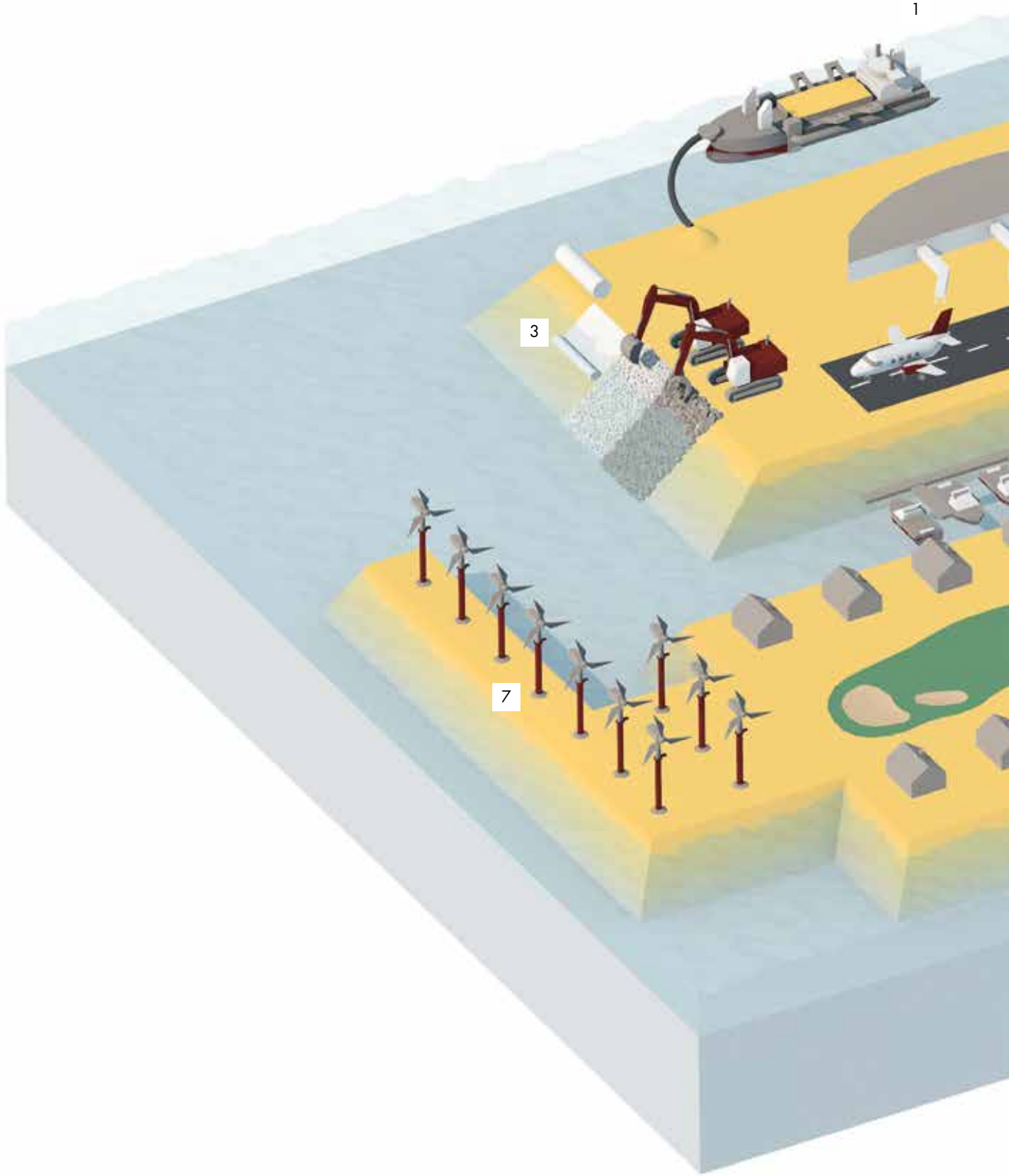
Coastal protection

Environmental services

INFRA SOLUTIONS

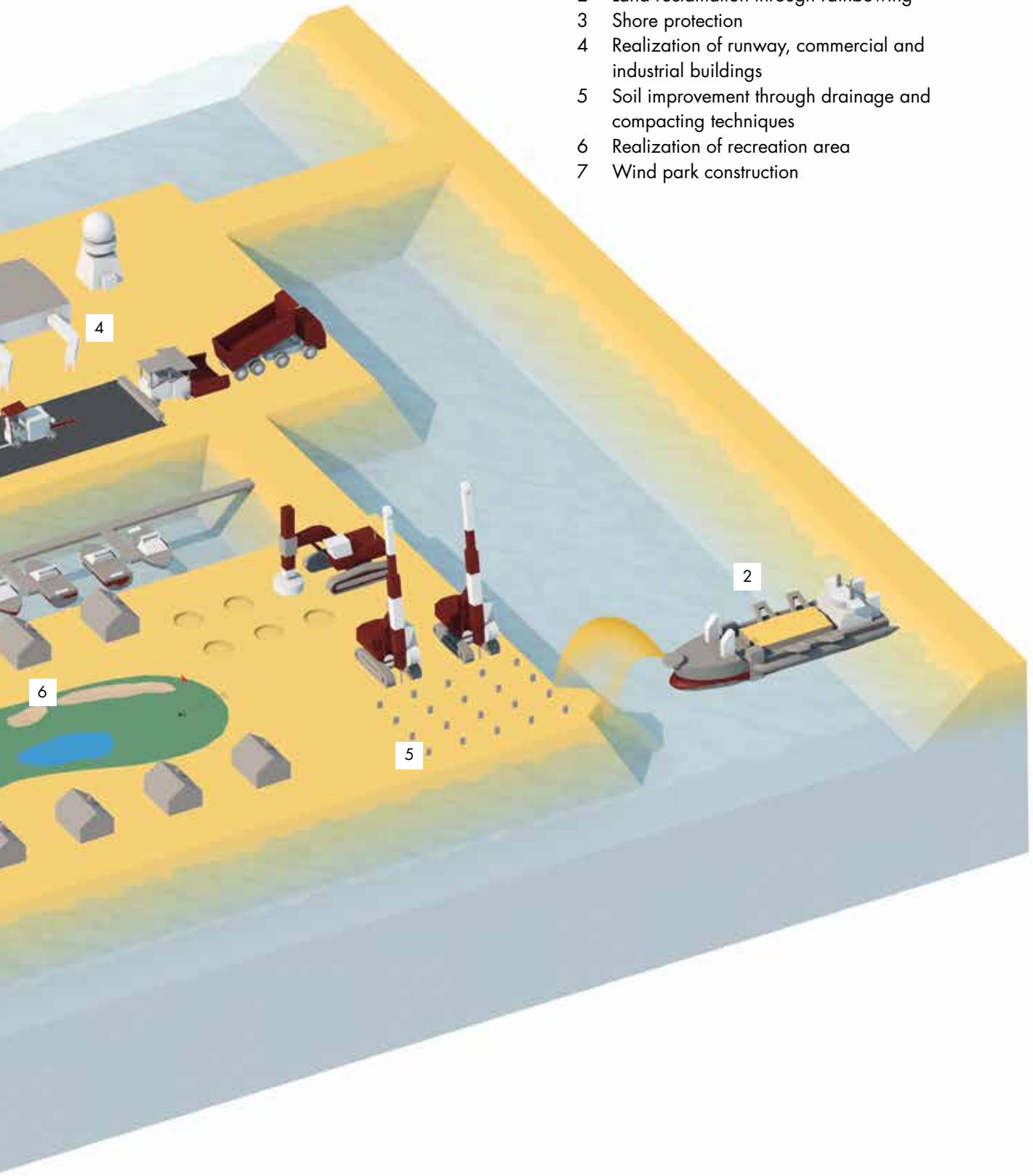


LAND RECLAMATION



OUR SOLUTIONS

- 1 Land reclamation through pumping a shore
- 2 Land reclamation through rainbowing
- 3 Shore protection
- 4 Realization of runway, commercial and industrial buildings
- 5 Soil improvement through drainage and compacting techniques
- 6 Realization of recreation area
- 7 Wind park construction



LAND RECLAMATION

'NEW LAND THANKS TO ECONOMICALLY AND ECOLOGICALLY SOUND SOLUTIONS'

COPENHAGEN, DENMARK
Boskalis was involved in the construction of the Amager beach park in the center of the densely populated city.



LAND RECLAMATION

Population growth and economic development are most prevalent in coastal areas, which are coming under increasing pressure around the world. Space is a scarce commodity and the pressure is on to create sustainable solutions.

Boskalis is a global expert in sustainable and cost-competitive land reclamation. The land we reclaim literally becomes the foundations for airports and residential, recreational and industrial developments.

Thanks to our years of experience we are able to handle the entire process - from the feasibility study to completion of the project. Our innovative soil consolidation and compacting techniques enable you to considerably reduce construction time and save costs. We can even provide financing assistance thanks to our close relations with financial institutions.

BAHRAIN
Land reclamation for the new financial center which includes the stock exchange and major international banks and insurance companies.

INFRA SOLUTIONS



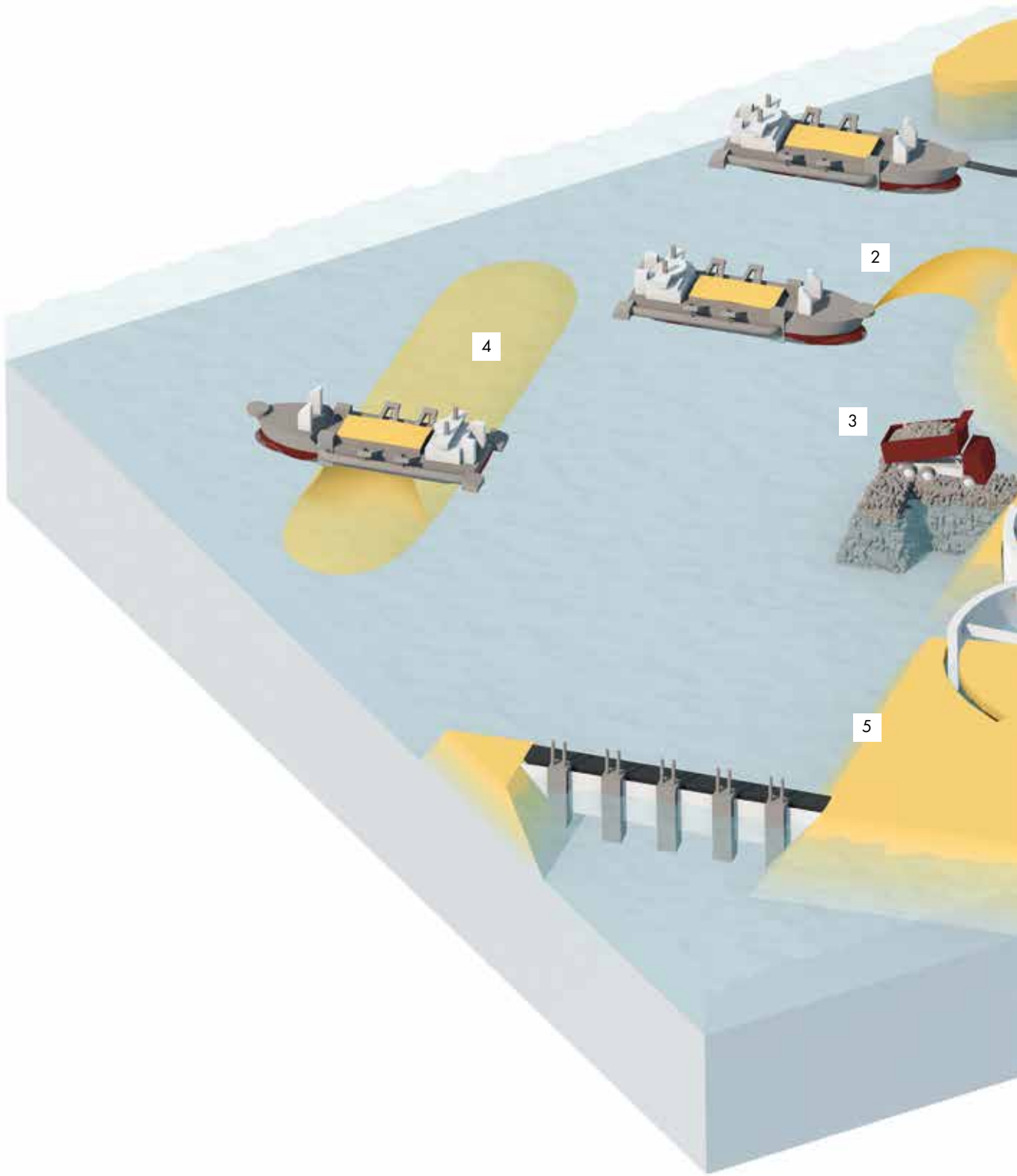
AMSTERDAM, THE NETHERLANDS

Since the 1960s demand for housing in Amsterdam has continued to outstrip supply. Boskalis reclaimed land for IJburg, a new district on the east side of Amsterdam.

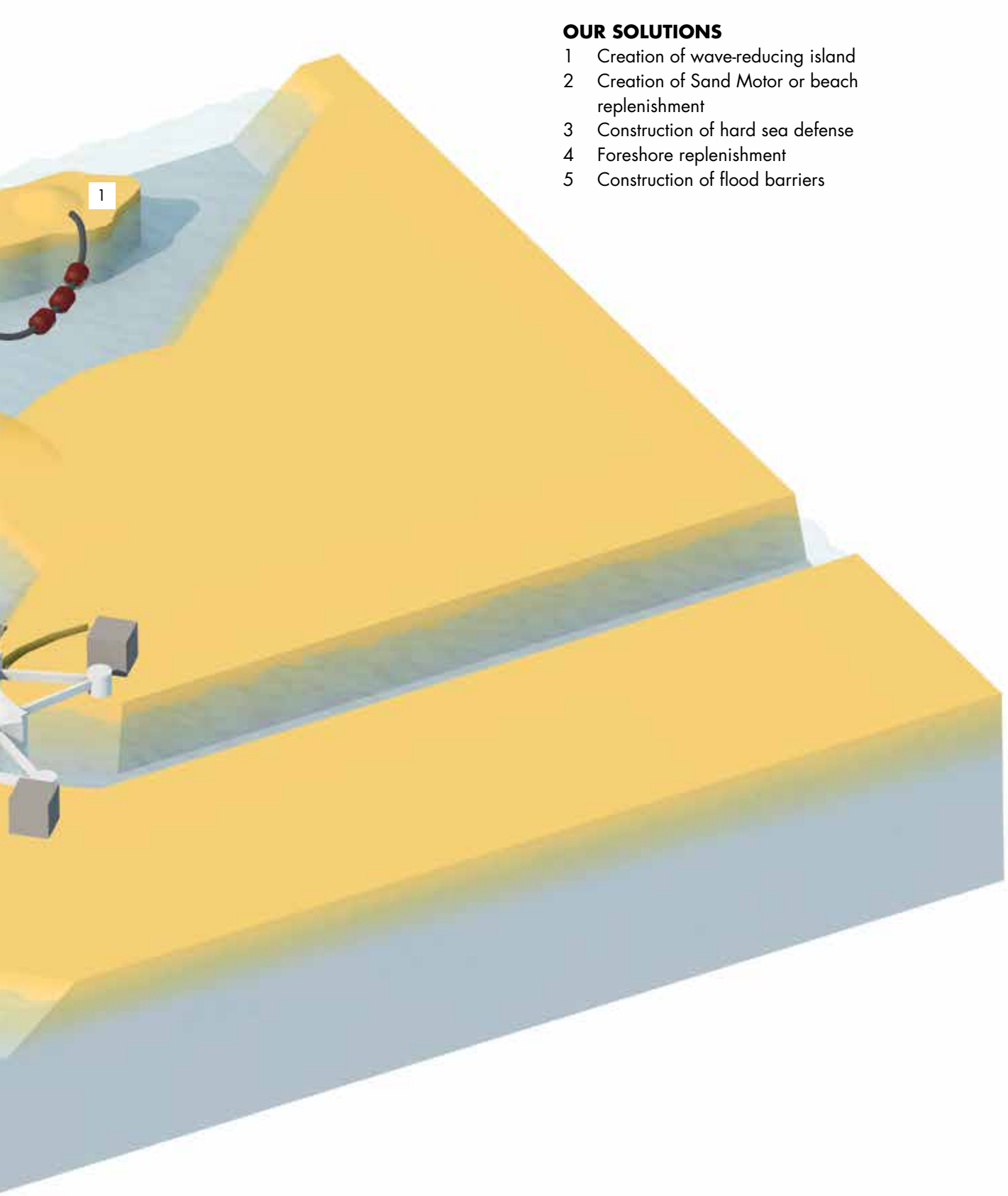


COASTAL PROTECTION

COASTAL PROTECTION



INFRA SOLUTIONS



OUR SOLUTIONS

- 1 Creation of wave-reducing island
- 2 Creation of Sand Motor or beach replenishment
- 3 Construction of hard sea defense
- 4 Foreshore replenishment
- 5 Construction of flood barriers

COASTAL PROTECTION

COASTAL PROTECTION



INFRA SOLUTIONS



ST PETERSBURG, RUSSIA
Boskalis was involved in the completion of the Flood Protection Barrier, as well as in the construction of a new shipping channel and a tunnel.



'ENSURING SAFETY AND NATURAL BALANCE'

Safety and a natural balance are the most important aspects of good coastal protection. To achieve this requires an expert with a proven track record and the drive to maintain a well-balanced eco system.

Boskalis is a leading global player in the field of coastal protection. Our vast experience and expertise enable us to assist you with the economic and environmental assessment of your coastal protection project.

Not only do we design, construct and maintain hard sea barriers like dikes and dams and soft sea defenses like beach and near-shore replenishment; we also provide innovative solutions for more natural coastal protection such as a sand motor that uses natural forces like tides, wind, currents and waves to spread sand along the coast from a central replenishment location. Or the creation of a wave-reducing system by strategically positioning man-made islands that provides protection, additional coastline and land, as well as more biodiversity to the newly created shallow water.



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THE NETHERLANDS

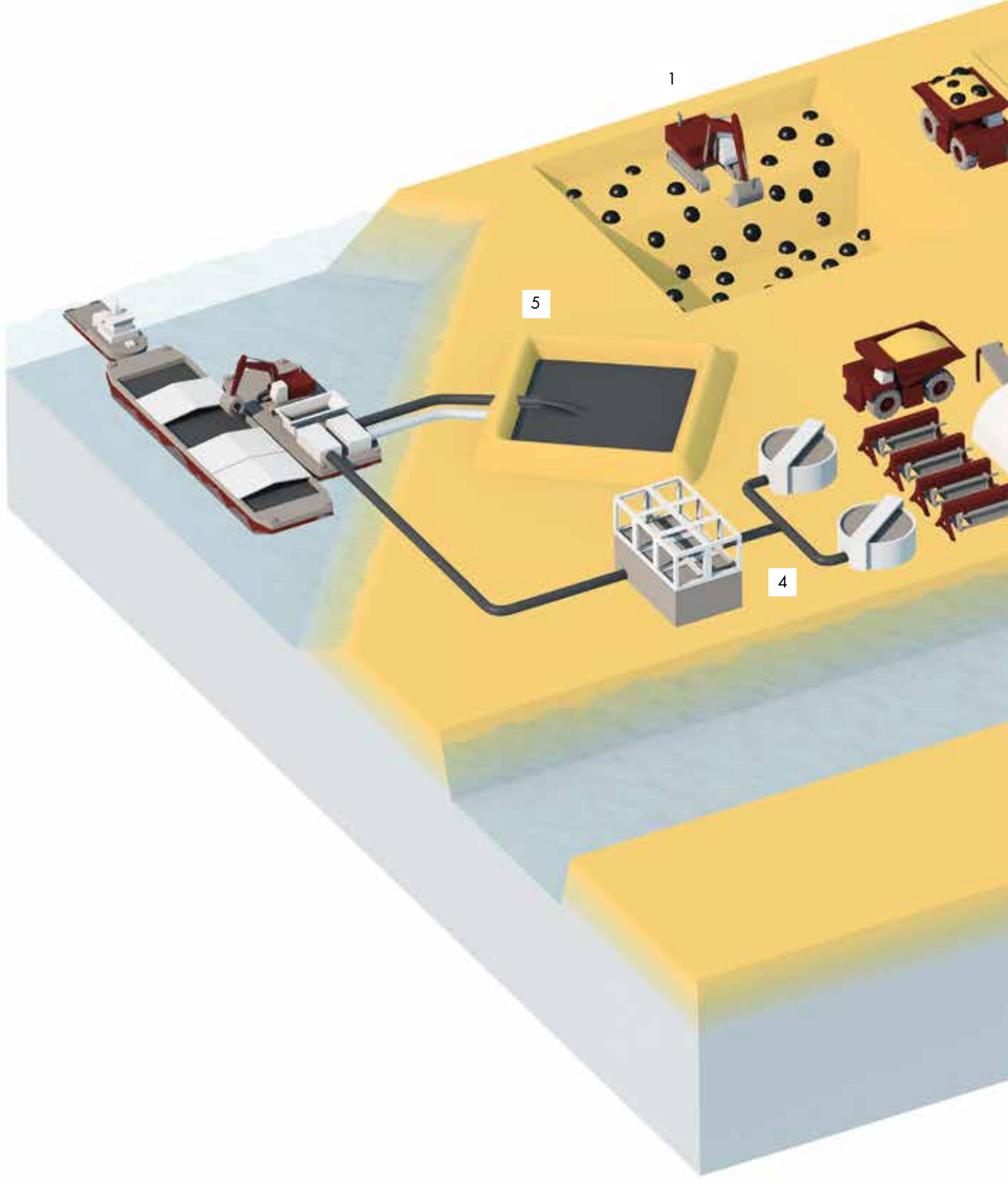
The sand motor, an innovative form of coastal protection. Natural forces like tides, wind, currents and waves will spread the sand on the 128-acre peninsula along the coast for the next 20 years, naturally forming a protective shoreline with new beaches and dunes.

right
VILUFUSHI, MALDIVES

The island of Vilufushi was devastated by the 2004 tsunami. Boskalis helped secure financing to restore the island. We also raised the island, extended it fourfold and built a new harbor and coastal defenses. The island is now a safe haven for the people of the Maldives in the event of a disaster.

ENVIRONMENTAL SERVICES

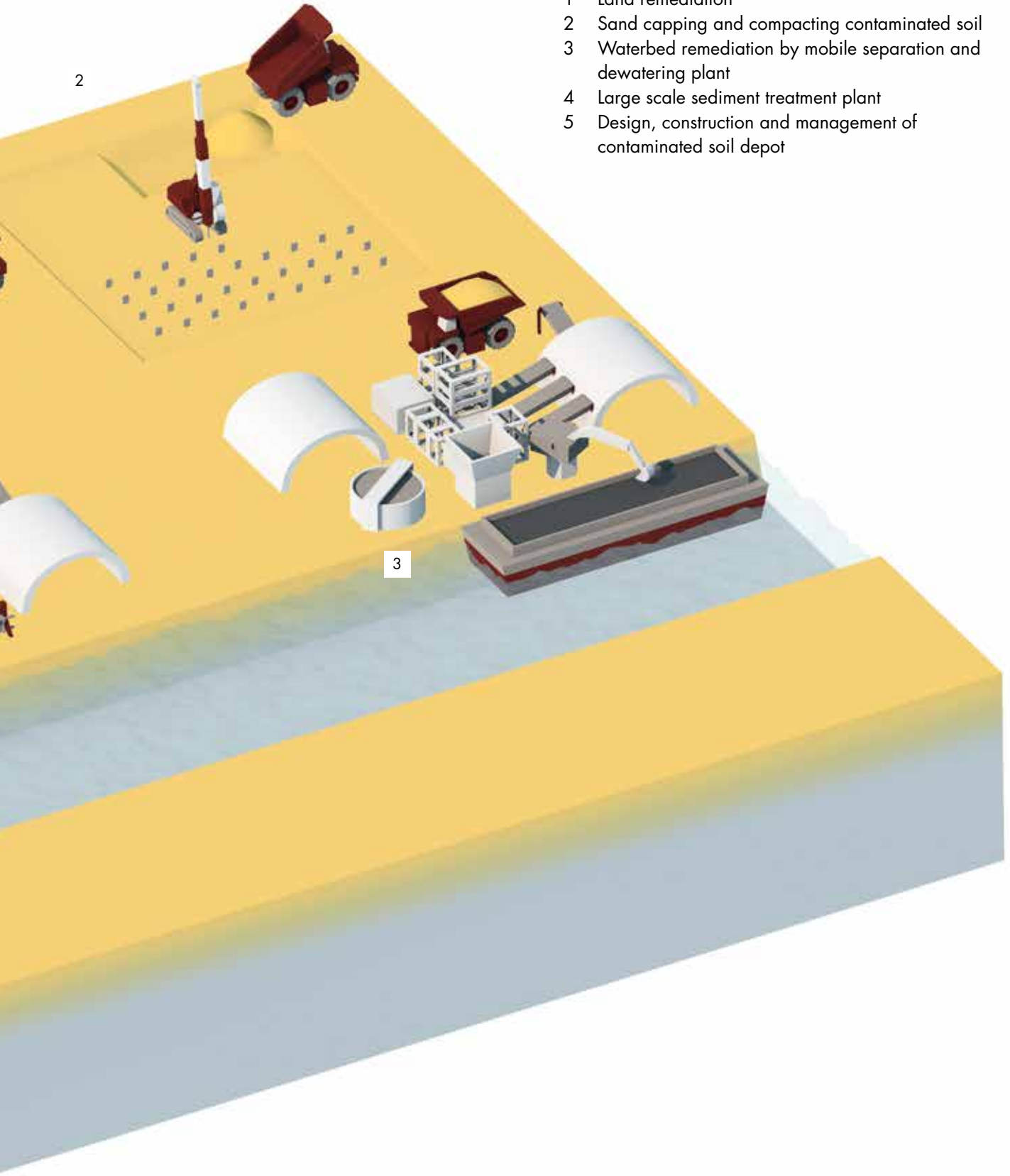
ENVIRONMENTAL SERVICES



INFRA SOLUTIONS

OUR SOLUTIONS

- 1 Land remediation
- 2 Sand capping and compacting contaminated soil
- 3 Waterbed remediation by mobile separation and dewatering plant
- 4 Large scale sediment treatment plant
- 5 Design, construction and management of contaminated soil depot



ENVIRONMENTAL SERVICES

ENVIRONMENTAL SERVICES



INFRA SOLUTIONS



'SOIL REMEDIATION AND BENEFICIAL RE-USE'



Around the world there is a growing demand for large-scale remediation solutions for contaminated soil on land as well as under water. This remediation is often part of land development projects, subject to strict environmental requirements and time critical, with the costs being a major feasibility factor.

We provide sustainable and cost-competitive solutions throughout the remediation process, including inspection, planning, removal and beneficial re-use or disposal of the various sub-flows.

Boskalis Environmental has successfully completed complex, large-scale land and waterbed remediation projects around the world, using among others (mobile) separation and dewatering plants. Recent projects include the Zellingwijk brownfield development in the Netherlands, the Miami, Fox and Passaic riverbed cleanup in the United States and the Toronto Waterfront soil remediation pilot in Canada.

Other activities include the large-scale extraction of building materials from waste, such as granulate from bottom ash.

In addition our subsidiary Cofra has patented techniques at its disposal for sealing contaminated soil, extracting landfill gas and compacting material to reduce volume.

MIAMI (FL), USA

Aerial view of the mobile separation and dewatering plant along the banks of the Miami River. The cleanup project on a 5.5-mile narrow stretch of the Miami River included the treatment, beneficial re-use and disposal of sediments contaminated with heavy metals. The challenge of realizing volume reduction and optimum re-use was successfully met.



left and right WISCONSIN, USA

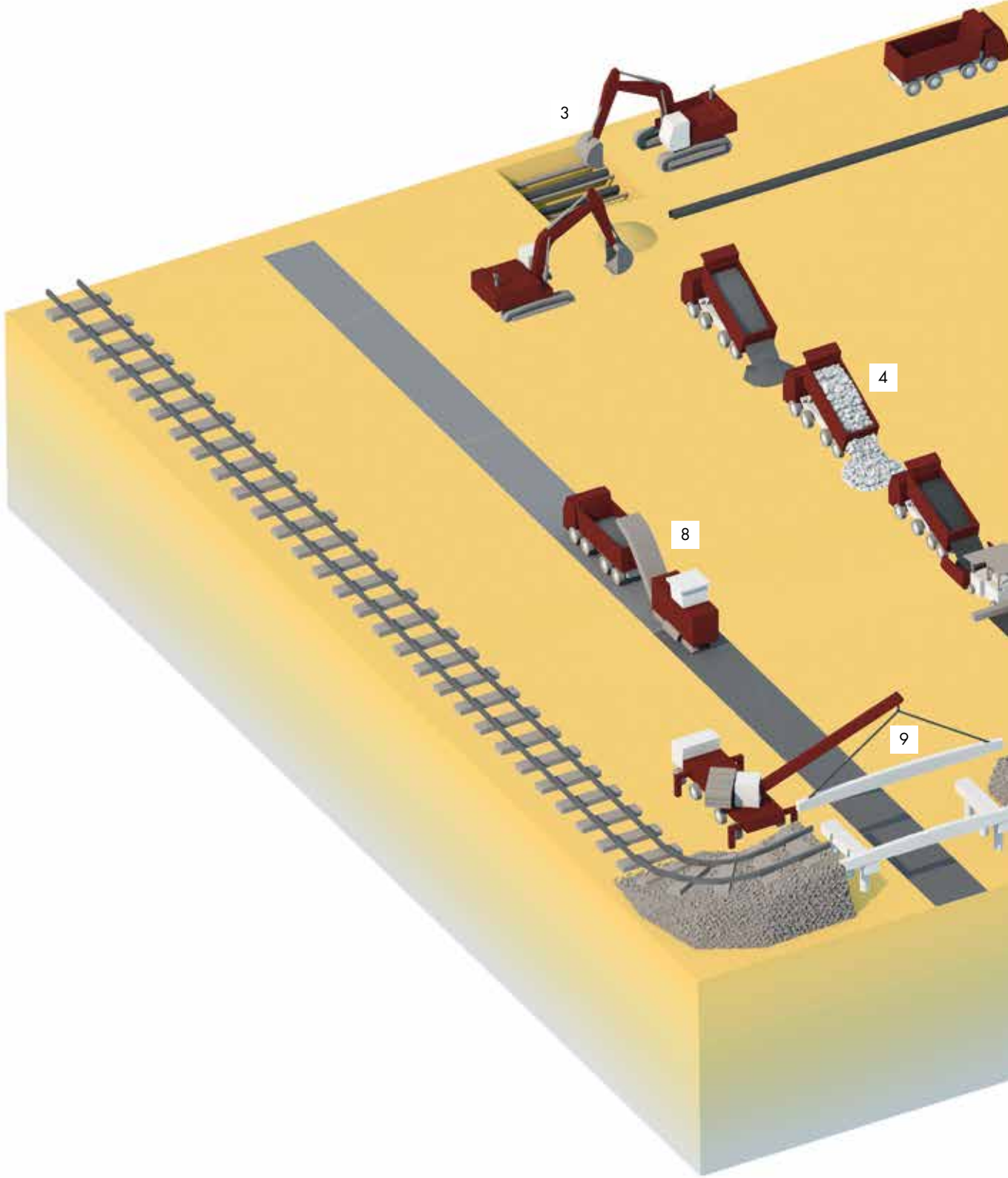
Inside view of the separation and dewatering plant for the Fox River cleanup. The plant will process four million cubic yards of PCB-contaminated sediment over a period of eight years.

middle GOUDERAK, THE NETHERLANDS

Brownfield development of Zellingwijk, a residential area contaminated with oil, pesticides, tar and heavy metals.

ROADS & RAILWAYS

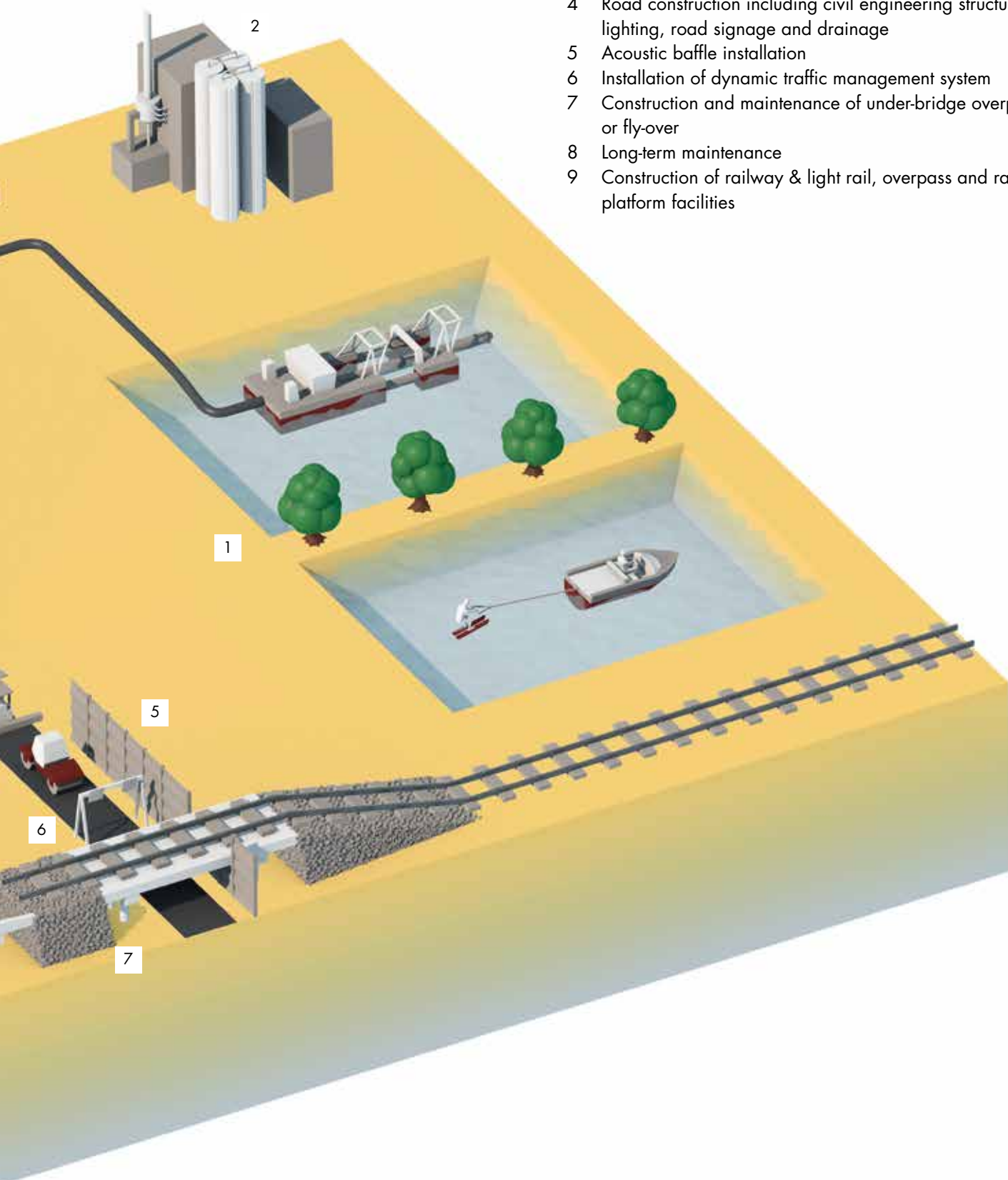
ROADS & RAILWAYS



INFRA SOLUTIONS

OUR SOLUTIONS

- 1 Sand winning & creation of recreation area
- 2 Asphalt production
- 3 Construction and maintenance of sewage pipelines
- 4 Road construction including civil engineering structures, lighting, road signage and drainage
- 5 Acoustic baffle installation
- 6 Installation of dynamic traffic management system
- 7 Construction and maintenance of under-bridge overpass or fly-over
- 8 Long-term maintenance
- 9 Construction of railway & light rail, overpass and rail platform facilities



ROADS & RAILWAYS

ROADS & RAILWAYS



INFRA SOLUTIONS



'INTEGRATED SOLUTIONS FOR HIGH-QUALITY ROADS AND RAILWAYS'



Road and rail infrastructure is constantly changing. New construction, reconstruction, renovations and maintenance require thorough preparation, communication with all stakeholders and safe, high-quality execution within stringent timelines. Not to mention the input of a wide range of disciplines including expertise in civil engineering structures, drainage systems and technical installations.

As main contractor we are active in the development, supervision and realization of integrated, multidisciplinary (rail)road projects. We provide innovative, cost-effective and environmentally friendly solutions. For more than a century we have successfully designed, built, reconstructed and maintained highways, intersections, overpasses, tunnels, aqueducts and railway lines.

HIGHWAY A4, THE NETHERLANDS

Construction of an overpass. The proximity to a runway at Amsterdam airport Schiphol meant that the placement of the beams took place at night when the runway was not in use.



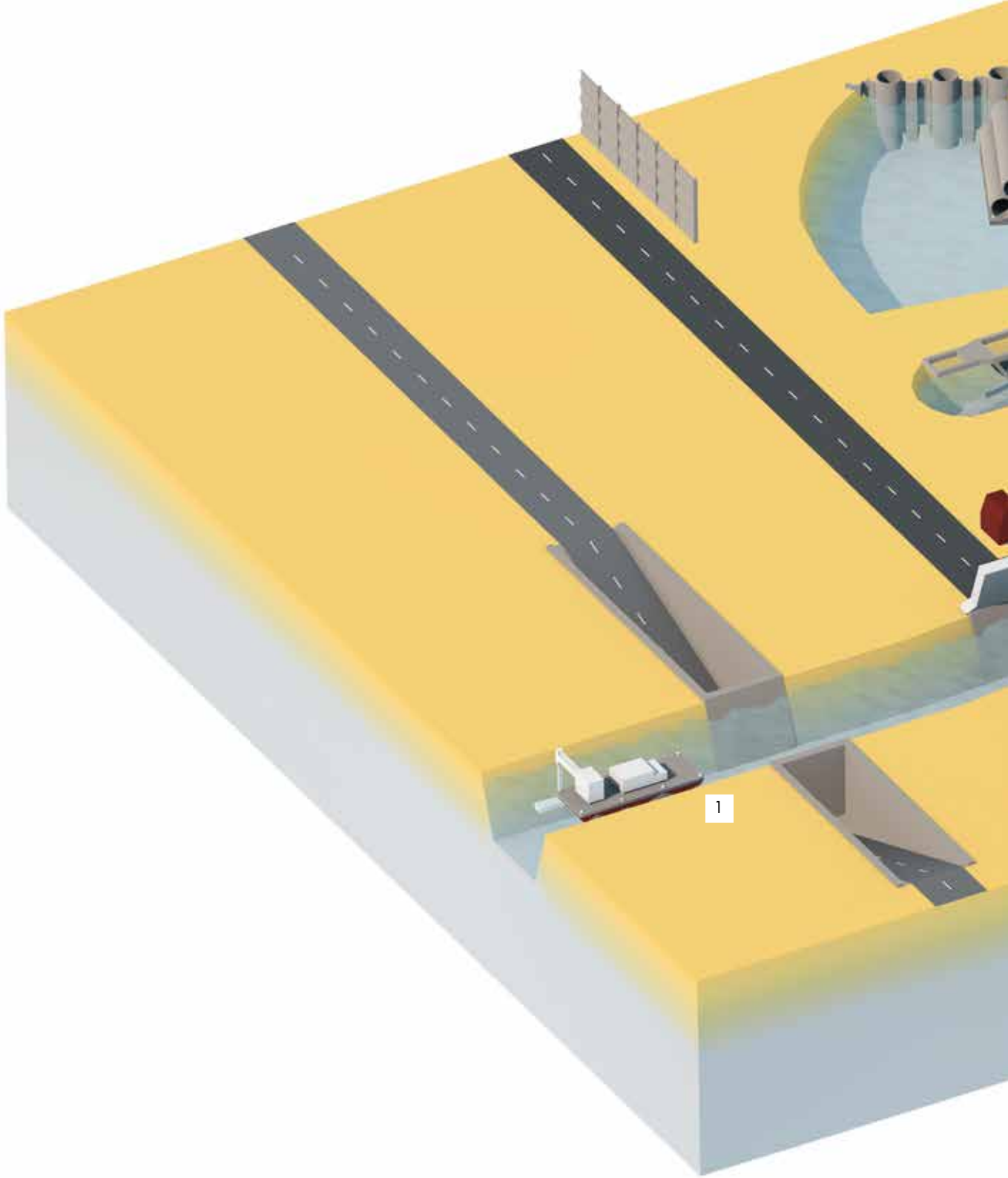
left AMSTERDAM, THE NETHERLANDS

Construction of a car tunnel, bus platform and wharf with docks next to the monumental Amsterdam Central Station.

right SNEEK, THE NETHERLANDS

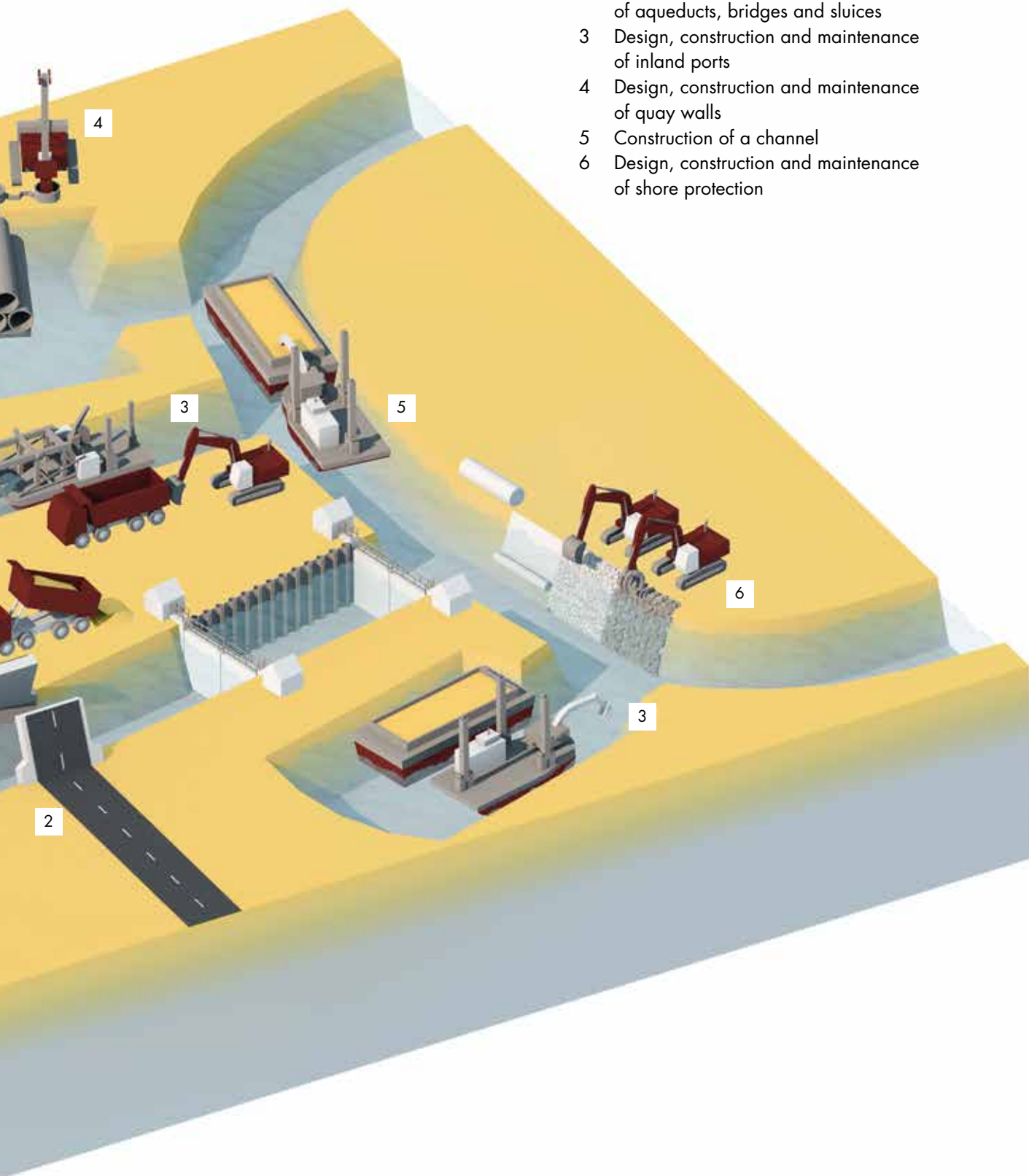
The construction of an 800-meter long aqueduct. Part of the work involved the construction of three fly-overs, the associated construction of part of the A7 highway and railway modifications.

INLAND PORTS & WATERWAYS



OUR SOLUTIONS

- 1 Design, construction and maintenance of channels and canals
- 2 Design, construction and maintenance of aqueducts, bridges and sluices
- 3 Design, construction and maintenance of inland ports
- 4 Design, construction and maintenance of quay walls
- 5 Construction of a channel
- 6 Design, construction and maintenance of shore protection



INLAND PORTS & WATERWAYS

INLAND PORTS & WATERWAYS



INFRA SOLUTIONS



'CREATING OPPORTUNITIES FOR INLAND PORTS AND WATERWAYS'

Costs are always a major consideration, also when constructing and maintaining inland ports and waterways. This requires an experienced specialist who creates opportunities, assesses the risks well and operates cost-competitively.

We can help you to positively impact the economic feasibility of your project. For instance by assessing the possibility to re-use the dredged material as building material or by creating new recreational and nature areas.

We not only design, build and maintain inland ports and canals but also quay walls, locks, overpasses and aqueducts, tunnels and bridges.

We are also called in to offer sustainable solutions for high river water levels. We widen rivers, create secondary channels, upgrade dikes, construct flood areas and improve the landscape by creating new nature areas.



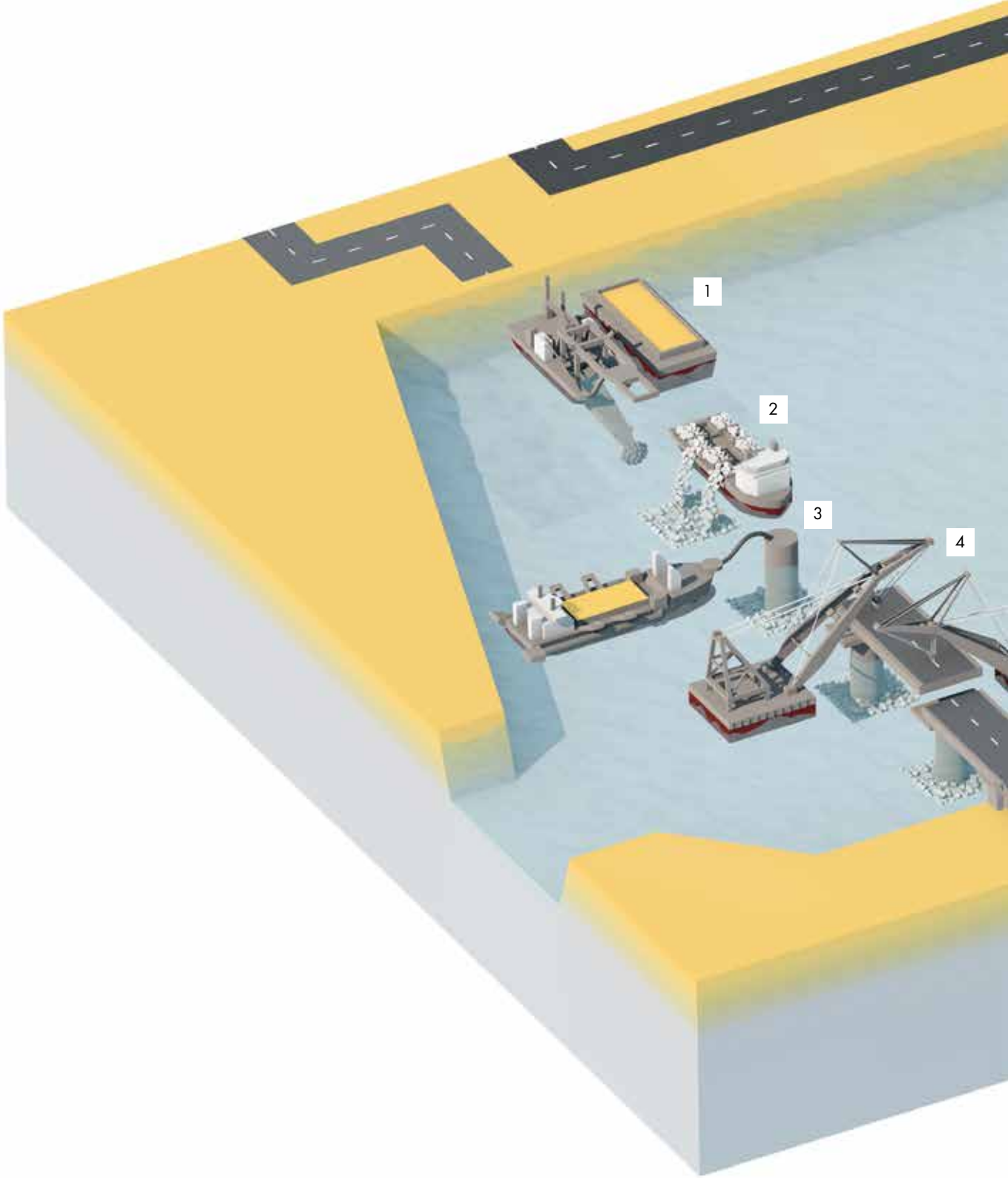
URK, THE NETHERLANDS
Removing contaminated sediment from the port of Urk.



left
SEVILLE, SPAIN
Maintenance dredging and removal of the top layer of the construction pit for the future lock in the commercial river port of Seville.

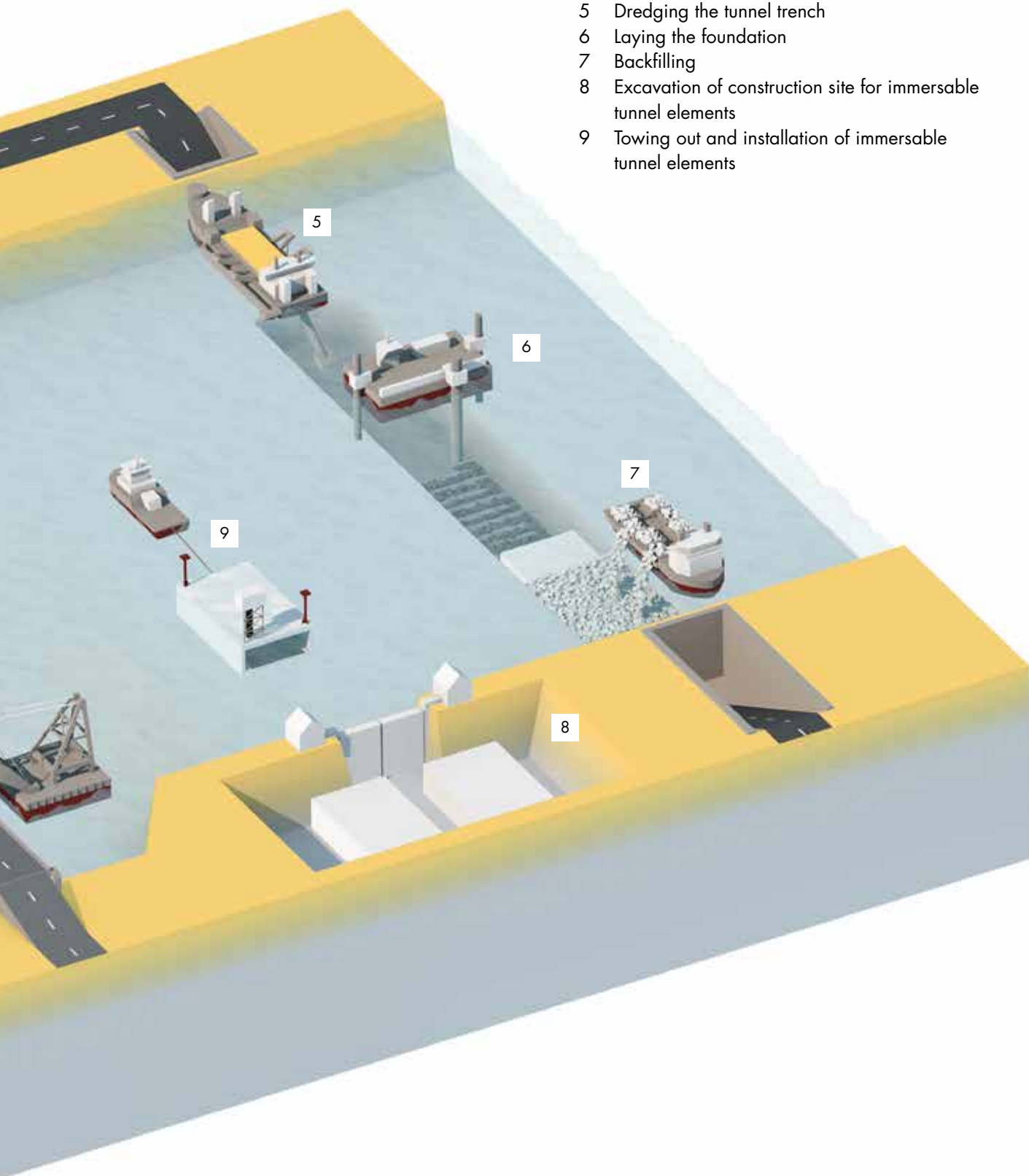
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THE NETHERLANDS
One of the 40 'Room for the River' projects aimed at offsetting the effects of severe rainfall and high water levels. Boskalis is involved in the widening of rivers, creation of secondary channels, upgrading of dikes and construction of overflow areas. The creation of nature areas has also improved the appearance of the landscape.

TUNNELS & BRIDGES



OUR SOLUTIONS

- 1 Leveling the riverbed
- 2 Scour protection
- 3 Installation and ballasting pillar
- 4 Installation of bridge parts by tandem lift
- 5 Dredging the tunnel trench
- 6 Laying the foundation
- 7 Backfilling
- 8 Excavation of construction site for immersable tunnel elements
- 9 Towing out and installation of immersable tunnel elements



TUNNELS & BRIDGES

TUNNELS & BRIDGES



INFRA SOLUTIONS

'TOP GRADE SOLUTIONS COVERING THE FULL SCOPE'

STRALSUND, GERMANY
Installation of bridge and pylon sections
for the new Stralsund Bridge.



The design, development and construction of bridges and tunnels is technically complex and economically challenging. This calls for specialist know-how, adequate risk assessment and cost control, detailed planning and a high degree of accuracy.

We provide solutions that cover the full scope of the process. Our design and environmental expertise, innovative surveying and installation techniques, specialist material and our ability to minimize risks and uncertainties enable us to offer the solutions you need.

In the past few decades we have been involved in a large number of tunnel and bridge projects, including the Øresund tunnel that connects Denmark with Sweden and the Stralsund bridge in Germany.



top
DENMARK – SWEDEN
Boskalis was involved in the construction of the Øresund Link/
Drogden Tunnel between Denmark and Sweden.

bottom
ROSTOCK, GERMANY
Submerging of the tunnel elements for the Rostock tunnel under
the river Warnow.

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.boskalis.com. You can download our corporate brochure and our other solutions brochures for Ports and Energy.



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