



Marine Works

HIGH-QUALITY MARINE INFRASTRUCTURE

10,000 tonnes

OF SHEET PILING

1,080 tonnes

OF LOAD-BEARING STEEL STRUCTURES OF BRIDGES

110,000 tonnes

OF CONCRETE BLOCKS

10,000

OF XBLOCPLUS

NEW SHIPPING CHANNEL IN THE GULF OF GDANSK, VISTULA SPIT, POLAND

IN POLAND, BESIX IS CONTRIBUTING TO THE CONSTRUCTION OF A NEW SHIPPING CHANNEL IN THE GULF OF GDANSK. THIS IS A STRATEGIC INVESTMENT FOR THE COUNTRY, AS IT WILL FACILITATE MARITIME TRAFFIC AND GIVE A BOOST TO THE LOCAL PORT, EMPLOYMENT AND THE ECONOMY. BESIDES THE CHANNEL, THE PROJECT ALSO INCLUDES THE TYPICAL MARINE ENGINEERING WORKS IN WHICH THE GROUP HAS EXCELLED FOR OVER 60 YEARS. THAT EXPERIENCE HAS PROVEN INDISPENSABLE TO COMPLY WITH DEMANDING ENVIRONMENTAL REQUIREMENTS.

// Project details

NEW SHIPPING CHANNEL IN THE GULF OF GDANSK

Location

Vistula Spit, Poland

Client

Maritime Bureau of Gdynia (Urząd Morski w Gdyni)

Contract type

Build

Construction Period

2019-2022

Contract value

187 million euros



ON TOP OF BUILDING IN AN EXTREMELY SENSITIVE MARINE ENVIRONMENT, WE ARE UNDER NATIONAL SPOTLIGHT DUE TO THE STRATEGIC AND ECONOMIC IMPORTANCE TO POLAND. //

LAURENS SCHOKKING, BESIX RESIDENT MANAGER POLAND

A BOOST TO THE POLISH ECONOMY

BESIX tackles the works in joint venture with a familiar partner, NDI Group. Both contractors worked in 2015-2016 on the second container terminal in Gdańsk. They are combining their expertise this time on behalf of the Maritime Bureau of Gdynia (Urząd Morski w Gdyni) in a project worth 187 million euros that is funded by the Republic of Poland. In this first part, the investment includes the construction of the Vistula channel with associated infrastructure and a 190 hectares artificial island. The new shipping channel will go right through the Vistula Spit, a peninsular stretch of land, separating the Vistula Lagoon from the Gdańsk Bay. The project will boost the nearby town of Elbląg's port installations by drastically reducing the distance between the port and the Baltic sea and making it accessible to larger vessels. Moreover, it is expected to positively impact the local province's employment rate and the economy.

WIDE RANGE OF EXPERTISE

This project encompasses many different sectors of general contracting, such as buildings, roads, dredging, civil works such as bridges and a lock, as well as a multitude of marine works. "That's why we can consider it as quite unique," says Laurens Schokking, Resident Manager Poland.



The channel stretches over 1.5 kilometres with a width varying from 25 to 120 metres. It is equipped with 61-metre long and 17-metre large rotating bridges, while the associated buildings will cover an area of 1,090 m². Located outside the spit in the Gdańsk Bay, the two breakwaters have respective lengths of 900 and 300 metres and form a protective harbour.

The new infrastructure will be completed within 32 months to be operational in June 2022.

HIGHEST ENVIRONMENTAL STANDARDS

The unique environment requires the contractors to put their expertise in building infrastructure that comply with the highest environmental standards to the test. "For example, we're adapting the planning and works to the birds and bats breeding seasons and to the fish-spawning periods," says Laurens. "Also on a technical level, we are taking measures. We apply construction technologies that drastically reduce the need for drainage construction and the range of water turbidity, as well as working methods and equipment which cause the lowest possible amount of noise, vibrations and waves," he continues. Finally, the construction facilities and operations are also adapted, for instance by strictly restricting them to the working area or using appropriate lighting in order to minimise disturbance for nocturnal animals.

After phase three of the contract has been completed and the channel to Elbląg has been dredged, the approximately 180 hectares artificial island will serve exclusively as a natural area, a sanctuary for the local wildlife and migratory birds.

INNOVATIVE BREAKWATERS

These environmental efforts also lead to the use of innovative technologies. To construct the eastern and western breakwaters, the JV opted for the cutting-edge XblocPlus. The choice for these blocks was not only a choice in accuracy, efficiency and safety, it also contributed to a more sustainable project.

An upgrade of its worldwide applied predecessor, the XblocPlus is more resistant to climate change and requires less concrete to produce. Along with the fact that 50 % fewer blocks are needed in total to build the same length of breakwaters, it significantly reduces the project's CO₂ footprint. Moreover, the new shape can be installed much easier and faster (over 100 blocks per day!) and has a special surface ideal for marine life to thrive on. In total, 10,000 of XblocPlus or 21,000 m³ of unreinforced concrete will be used on the Vistula Spit, a first for Poland.