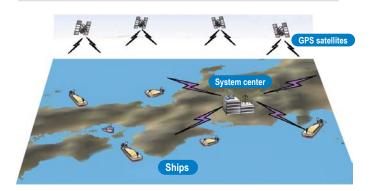
RESEARCH & DEVELOPMENT

COS-NET (Construction On the Sea Network)



COS-NET (Construction On the Sea Network) is a system for monitoring and controlling work-vessels by the combination of GPS and IT technology. By the application of this system, the operation data including accurate positions are available.

RYUJIN

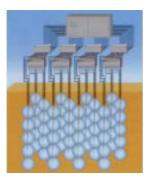


Production capacity: 360m³/hr of SGM light weight soil

Solidification capacity: 500m³/hr

Vessel specification: 65m long, 26m wide, 4.5m deep, 2m in water

RYUJIN is Japan's first Super Geo-Material (SGM) vessel and is equipped to deal with demands of great volume at a rapid speed. It has a producing system capable of storing large volume of lightening agents and to conduct highprecision measurements.

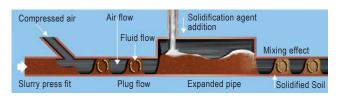




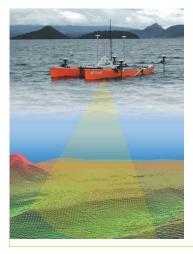
Ultra Multi-Permeation Grout Method

This is a new, but noteworthy technology to prevent soil from liquefaction. In this method, dozens to hundreds of nozzles are set three-dimensionally in the ground, and grout is automatically poured under the most suitable pressure and current volume based on pre-measured data.

Plug Magic Method



TOA has established an engineering technique named Plug Magic Method that enables soft dredged soil to be solidified efficiently for reuse as a filling material. This method requires no mixer, and the operating cost can be reduced by 10-15%. It is also an eco-friendly method enabling an in-pipe transportation of soft mud from dredging site to reclamation site. Plug flow occurs when compressed air gets mixed into soft mud in pneumatic pipeline. This method kneads soft mud and solidification material in the pneumatic pipeline, utilizing the characteristic of plug flow. It has maximum solidification capacity of 1,000m³/h.



Beluga System

This is our originally developed system and speedy accurate measurement of the depth of ground level in water by effectively combining the latest measurement devices, including the narrow multi-beam depth measuring sonar, in order to acquire data in wide regions, and the GPS.