



## SELF DISCHARGING CONTAINER

GRAVITI product is an easy-to-use self-discharging container that replaces the traditional methods of loading vessels with bulk cargo.

GRAVITI solution for bulk cargo includes a direct option for working from rear warehouses, directly into the vessel's hold, bypassing all intermediate spills near the quay wall.



### **Key advantages of GRAVITI solution:**

- **Preservation of the cargo in its original form**
- **Exclusion of the possibility of foreign objects getting into the cargo**
- **Losses of cargo are reduced to zero**
- **Loading speed – can reach 1000 tons per hour, working with one crane**
- **Reliability and safety margin**
- **Interchangeability – if one of the containers is out of order, the loading process is not affected**
- **Terminal equipment does not require any additional revision and modernization**
- **Crane, container spreader or even a traverse and the GRAVITI system is ready to work.**

**GRAVITI has a size of standard 20” HQ container, which gives an opportunity to move freely on public roads, therefore, shipments from warehouses or elevators outside the port area can be carried out.**

**Each GRAVITI container works autonomously and is controlled remotely. The radio remote control is programmed for the required number of containers. The sensor system excludes the possibility of unauthorized opening of the container.**



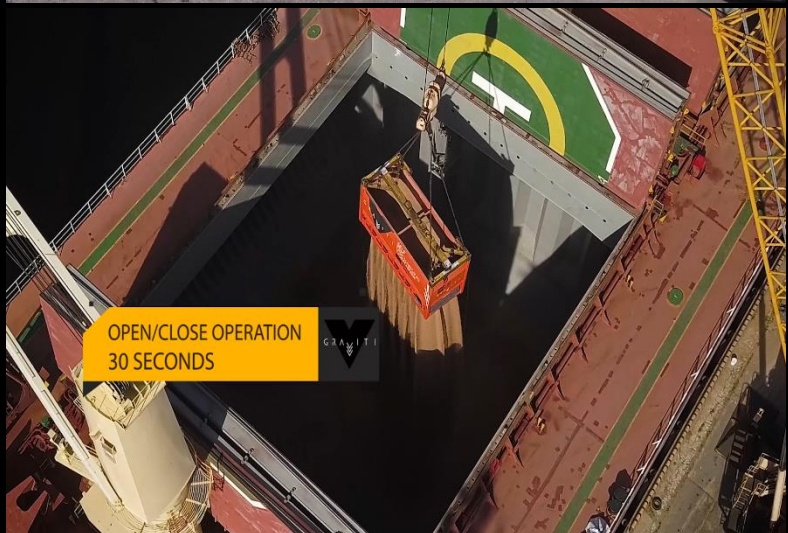
1. Delivery of containers with cargo under the crane



2. Lifting the container



3. Unloading into the hold of the vessel



**GRAVITI solves the problem of vehicle downtime, overfill, dusting, loss of cargo.**

**GRAVITI excludes contact of cargo with the wheels of trucks and front-end loaders.**

**GRAVITI reduces the number of equipment and workers during loading.**



The example with a standard sea container was chosen in order to clearly show that to work with GRAVITI there is no need to buy special equipment, except for the one already available in the port, which in turn does not incur any additional costs for the terminal.



## 1. Market overview. Actual tasks

The share of export and transshipment of bulk cargo around the world through seaports is growing every year, especially grain and wood pellets.

GRAVITI solution allows:

- Increase the loading speed of the vessel (the costs of the port are reduced, as well as the demurrage of the vessel)
- Reduce the number of overfills (since unloading from the truck directly into the hold) thereby minimally damaging to the cargo
- Organize transshipment using containers, within the available equipment in the port/terminal, without additional investments

## 2. Target audience

- Ports/terminals - getting a competitive advantage
- Cargo owners - safety of the cargo

## 3. Alternatives

There are no competitors as such, there are analogs of solutions (shipment directly to the hold from the warehouse) and this is mainly implemented by rotating the container:

- Rotainer
- Revolver
- Rotabox

Disadvantages of these systems:

- Cost (equipment 250 000 - 500 000 € + container for them)
- Reliability - in the event of a breakdown of the tipper, the loading will stop.

With GRAVITI containers, if one or more containers fail, the rest continue to work, and the loading does not stop.



- Loading speed is lower, this system is capable of handling only 1 container.

In case of GRAVITI technology, it is possible to work with a standard spreader - Twin-lift (a spreader designed to grab two 20'' sea containers at once). In the case of the "TWIN-LIFT" system, the loading speed is two times higher.

- Modernization of cranes, because this equipment consumes more capacity. Which in turn will require additional costs of re-equipment of a port crane. The terminal staff has to spend time to change the "rotator" to the spreader and back.

In case of GRAVITI technology, work is performed using a standard spreader.





## SELF DISCHARGING CONTAINER

We are ready to offer two options for using our product, which are parallel to each other:

- Sale – 30 500 – 34 000 €
- Service of providing the required number of containers for loading a concrete vessel or terminal maintenance on a long-term basis. Not all ports are ready to invest in this solution, in this regard, we are ready to provide it at a price of 0.25 - 0.35 € for each handled ton of cargo using GRAVITI.

