



FBC
Flexible Bulk Container

since 1998
fbc.pro
africa@fbc.pro

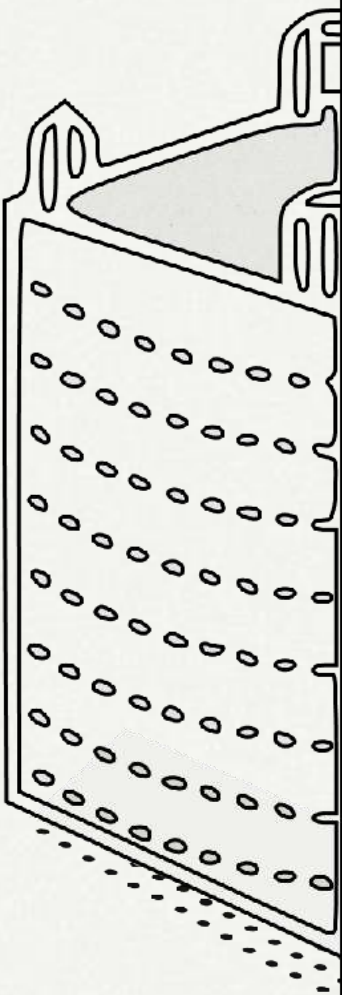


Challenges we address

- Limited storage capacity (silo, warehouse or open air space)?
- Shortage of specialised transportation capacity (wagons, trucks)?
- Loading big bags in bulk vessels?
- Thinking about your own distribution center?
- Loading issues due to weather and temperature restrictions?
- Requirement for multimodal transportation?
- Intending to reach new geographical areas to expand your market share, but have logistical constraints?
- Want to reduce logistics cost in the port?

Economic Comparison

Big Bag



Filling 14 tons
35 minutes

Discharging 14 tons
10 minutes

Total Cost Ownership per 1 ton
\$10

Capex per 1 ton
\$4.7

FBC



Loading 14 tons
5 minutes
30 min faster

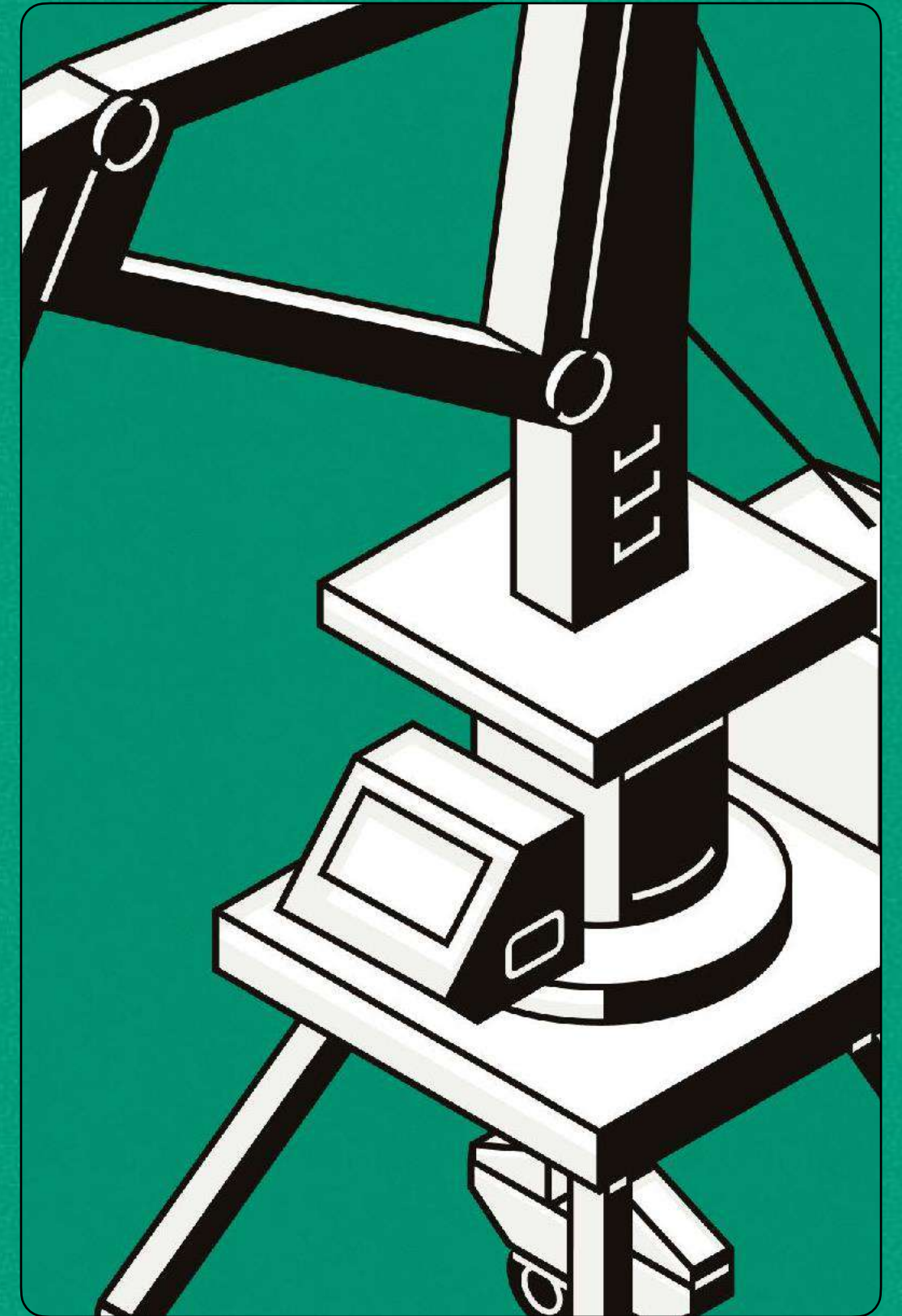
Unloading 14 tons
5 minutes
5 min faster

Total Cost Ownership* per 1 ton
\$3-5
65% cheaper

Capex per 1 ton
\$3.9
21% lower

* Total Cost Ownership Includes FBC's full price and service

Product

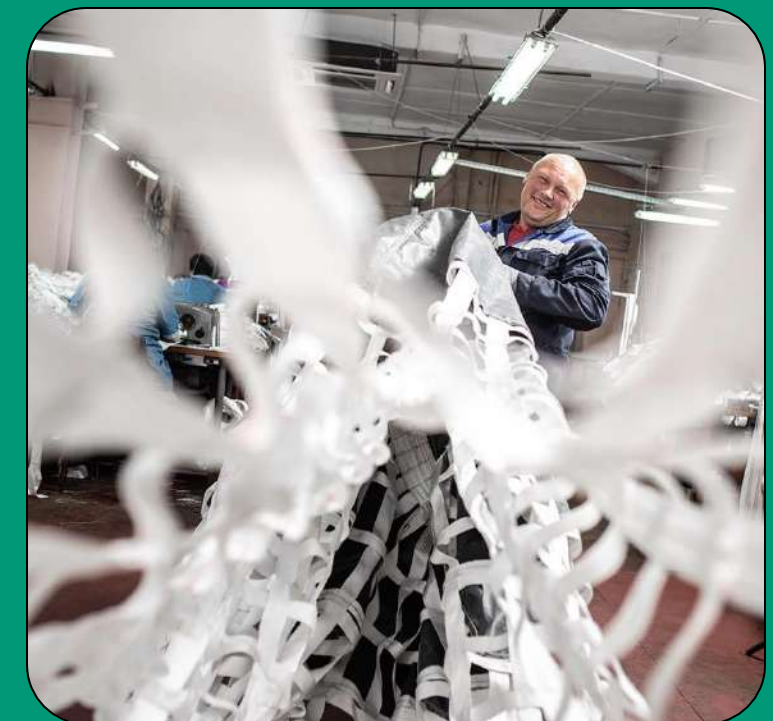


Since 1998, FBC is an established product in logistics market

We sell and rent the FBC, provide service training or provide service at the customer's site.

Our technology can improve filling and discharging efficiency by up to 50%, providing clients economic gain of up to \$ 5.0 per ton. By integrating FBC into your operations, your company can significantly increase cargo volumes distribution by efficiently transporting products to previously inaccessible geographic markets.

- We service our clients' requirements from three FBC production facilities employing with over 500 employees worldwide.
- Our R&D division that continuously seeks new solutions to improve the technology.
- Each additional invention is patented and tested with appropriate certification.



A technology that is free from the impact of supply chain changes

FBC helps to overcome logistical challenges on complex and ambiguous routes; where a new solution is required, it replaces environment unfriendly big bags, bales, specialised transportation means, and can be used as as storage unit for open air storage.

Our product is patented and certified with all relevant local and international regulators and authorities.

PATENTS RUSSIA

Patent of invention No. 2540788 dd 09.09.2013
Patent of invention No. 2412099 dd 20.02.2009
Patent of invention No. 2407688 dd 20.02.2009
Patent of invention No. 2284287 dd 01.03.2005
Patent of invention No. 214790 dd 28.09.2022
Patent of invention No. 207461 dd 30.06.2021

EUROPE

Patent of invention No. No 003512664-0001 dd 12.12.2016

USA

Patent of invention No. D838,604 S dd 22.01.2019

UK

Patent of design No. 90035126640001 dd 21 June 2019

CERTIFICATES

CERTIFICATE OF CONFORMITY NO. ROSS RU.NP02.N00043 Eurasian Economic
Commission Customs Union Certificate of Registry No.

Tare weight 75 kg

Loading capacity 12.5 m3

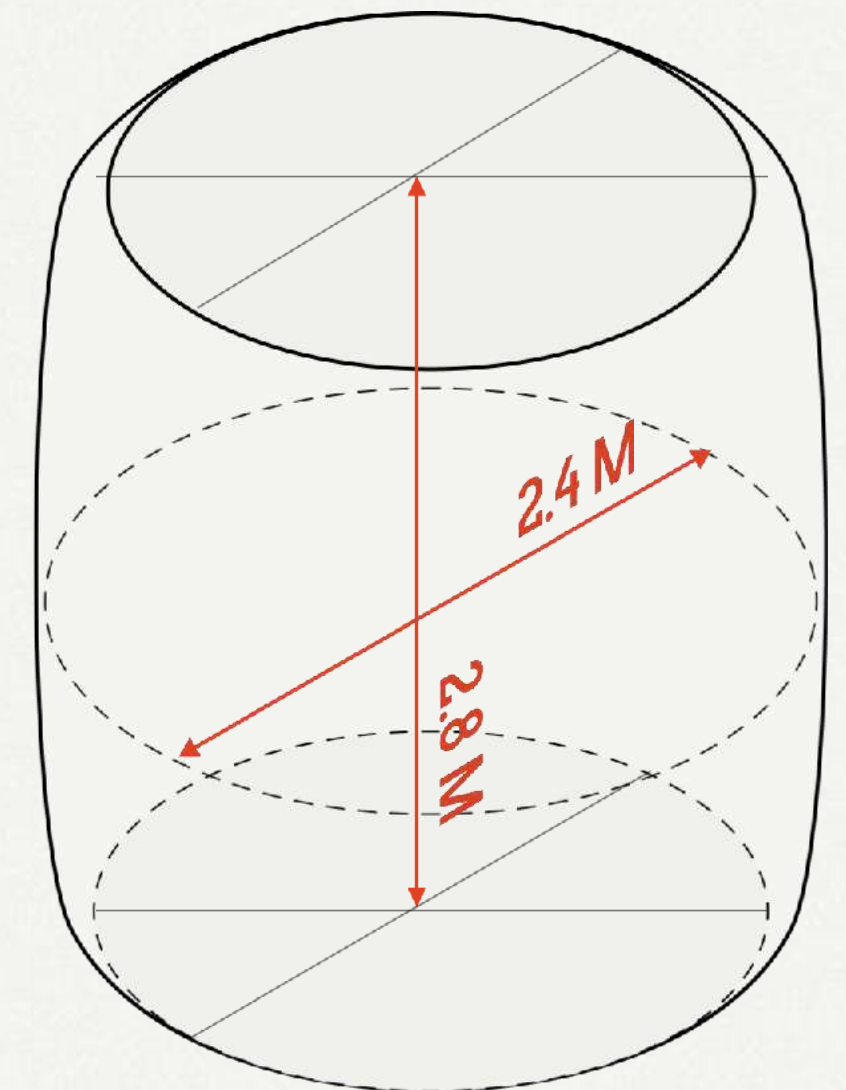
Carries up to 14 tons

Inner liner rubberized PE

Certificate UN

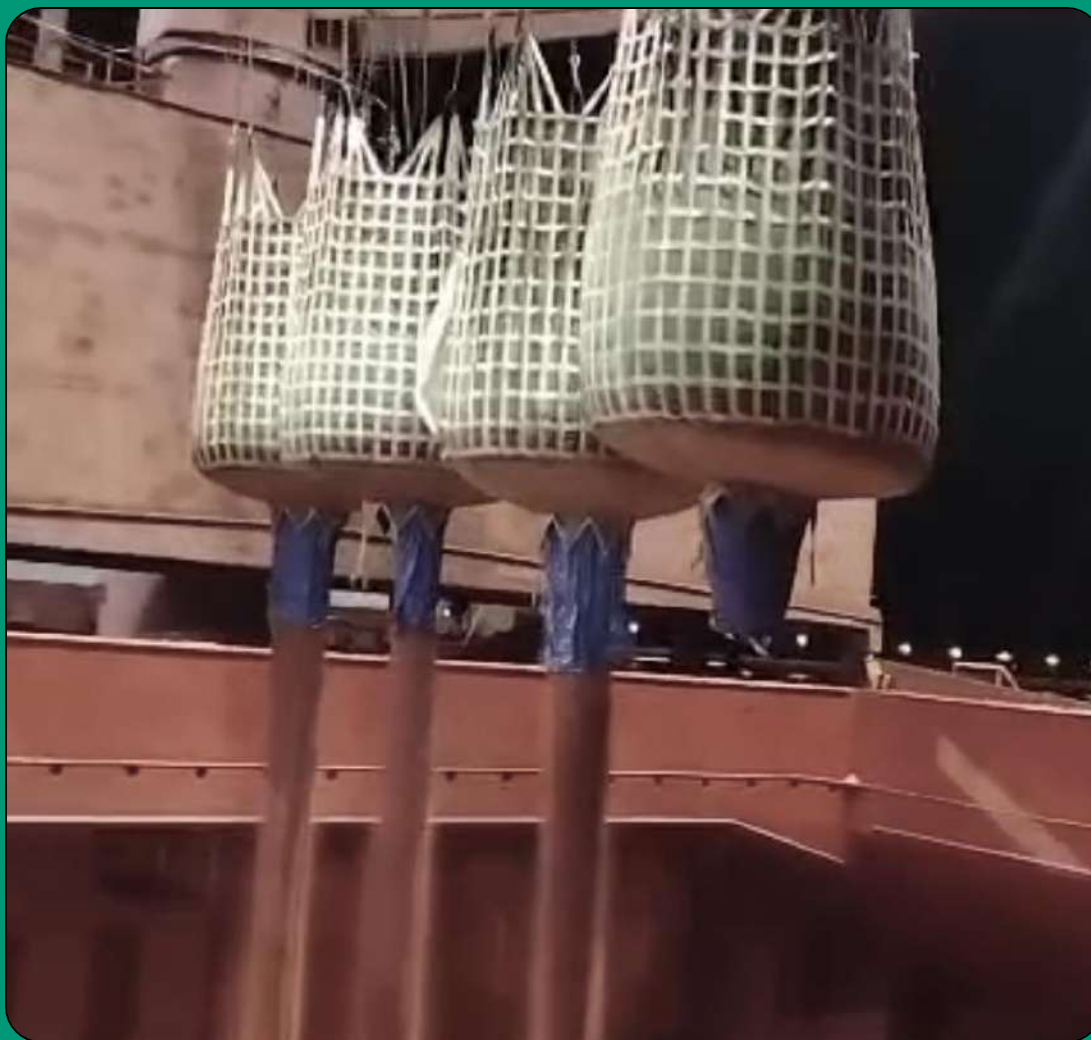


Dust supressing and waterproof



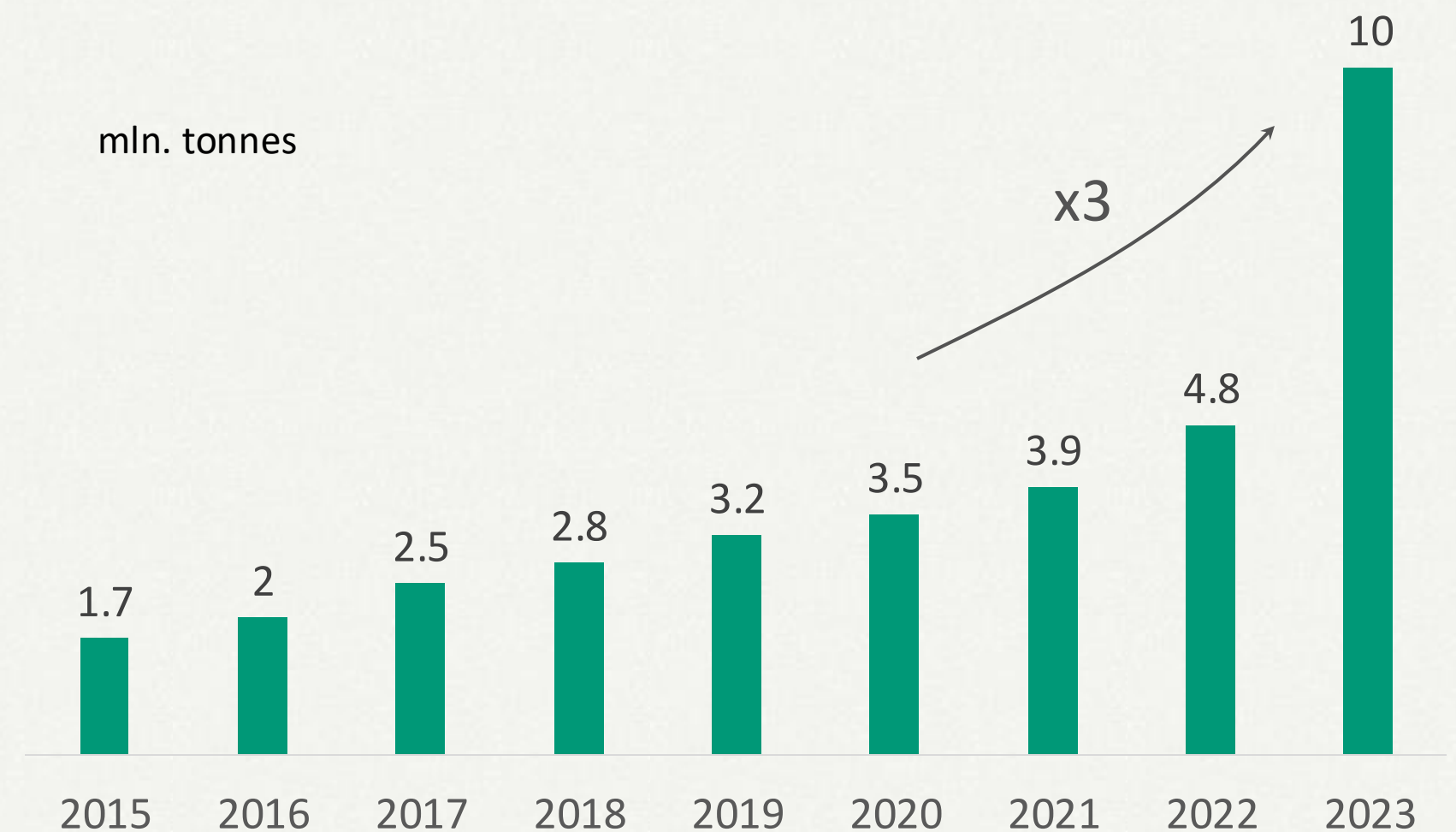
X3 growth in volume over the last 3 years

Bulk loading on a vessel 4 FBC at a time



More than **25,000** FBCs in operations. FBC is designed to transport bulk commodities, including hygroscopic and hazardous cargoes, while eliminating the need for costly handling infrastructure and covered warehouses.

Upgrading a bagging station or equipping a new site is quick, without any need for specialised handling equipment.

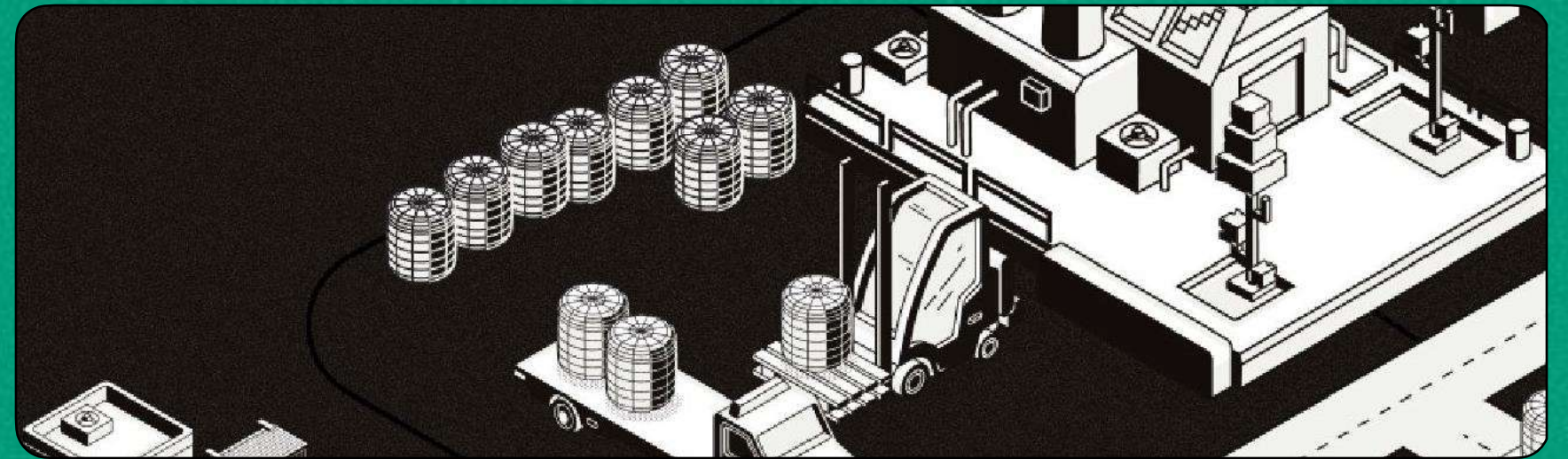
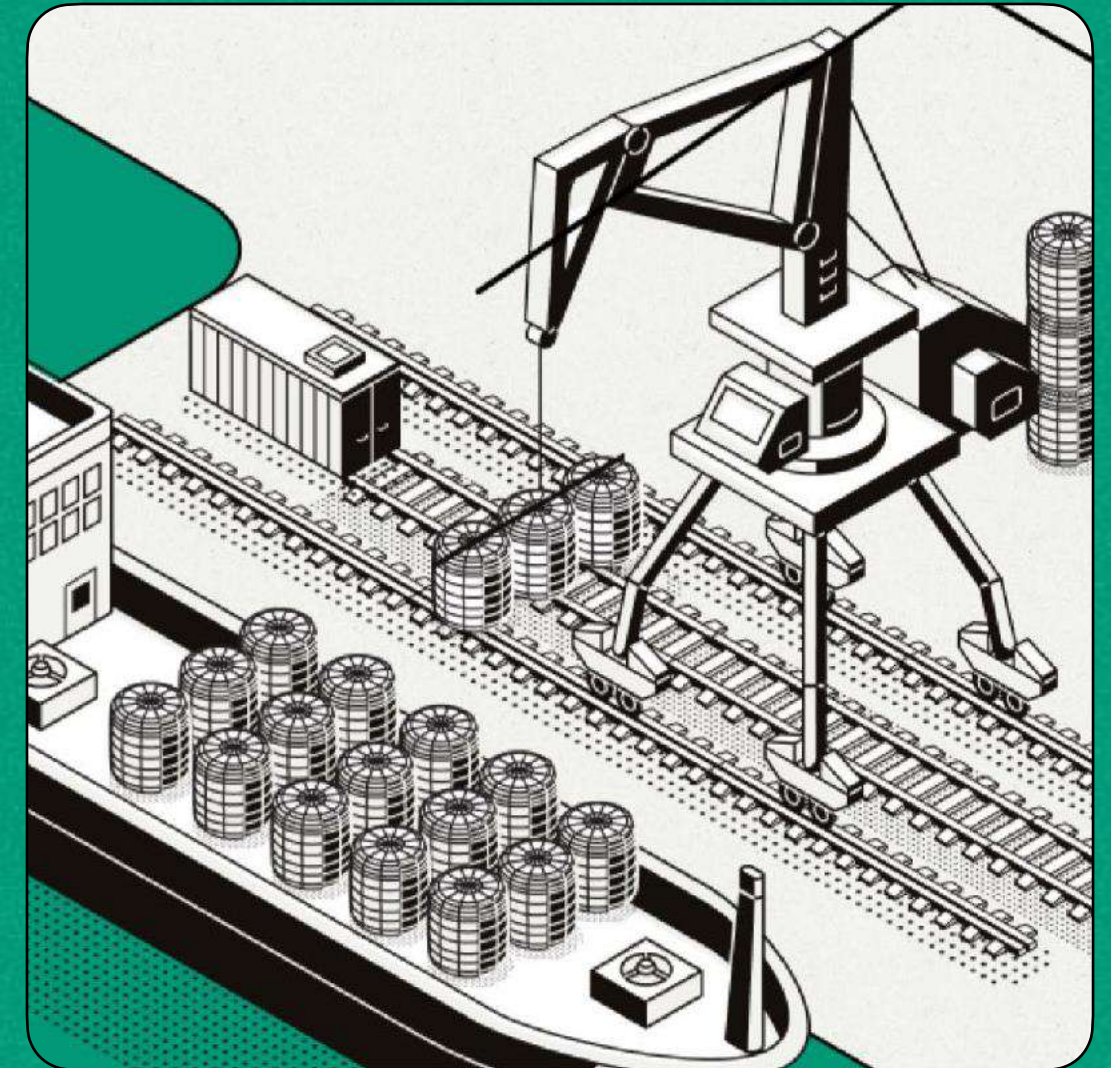
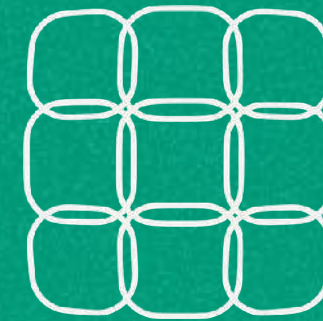
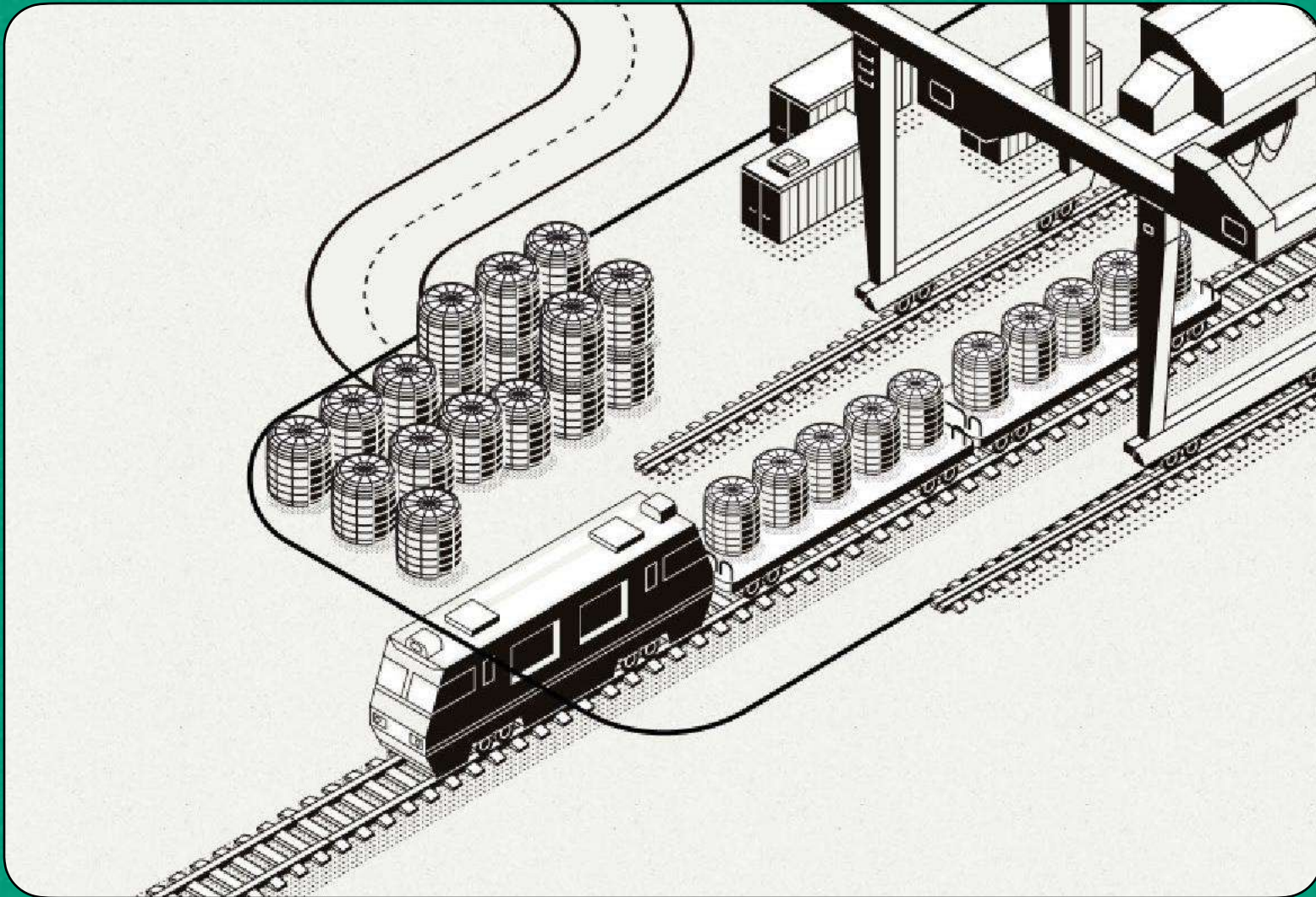
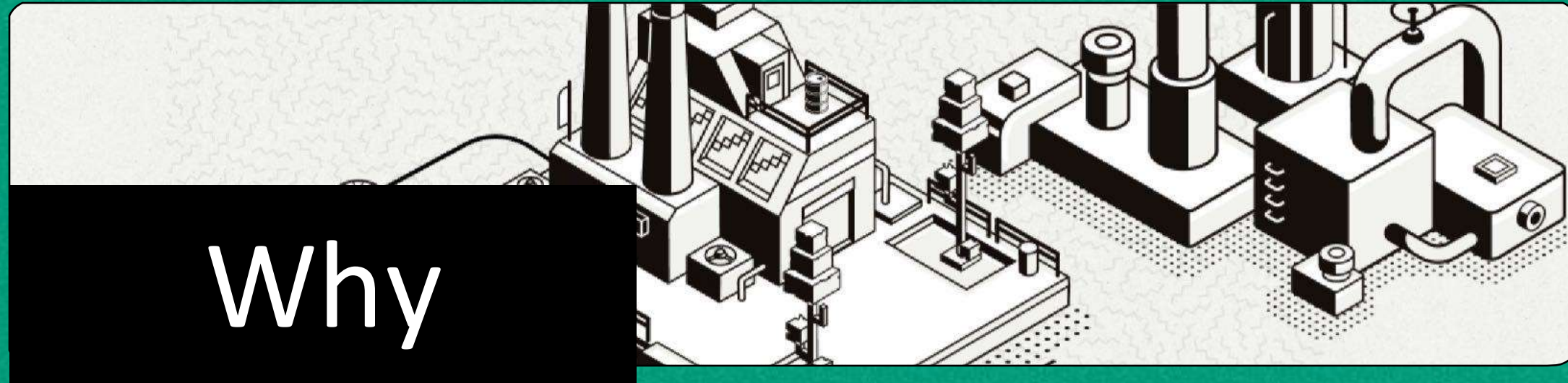


FBC operations

Filing rate per bagging unit	up to 3,000 tons per shift
Discharging rate	up to 6,000 tons per shift
Loading/uploading of one FBC (rail wagon or flat deck)	3 minutes
Discharge of one FBC into specialized vehicle (cement truck)	7 minutes
FBC loading/offloading rate (bulk vessel)	up to 5,000 tons per shift
Bulk vessel offloading rate (bagging into FBC)	up to 3,000 tons per shift
FBC loading/unloading (per rail wagon)	20 minutes



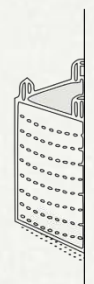
Why



Why switch to FBC

X2 Up to two times savings in
Total Handling Cost per ton

4⌚ On average, takes only 4 minutes to
discharge cargo from FBCs (e.g. into rail
wagons)



Compared to a 1-ton big bag, 50% more
cargo can be handled at the same time



Storage for the entire life
of the product



Can be stored outdoors and stacked up
to four tiers



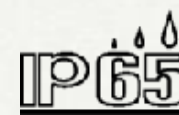
Multimodality



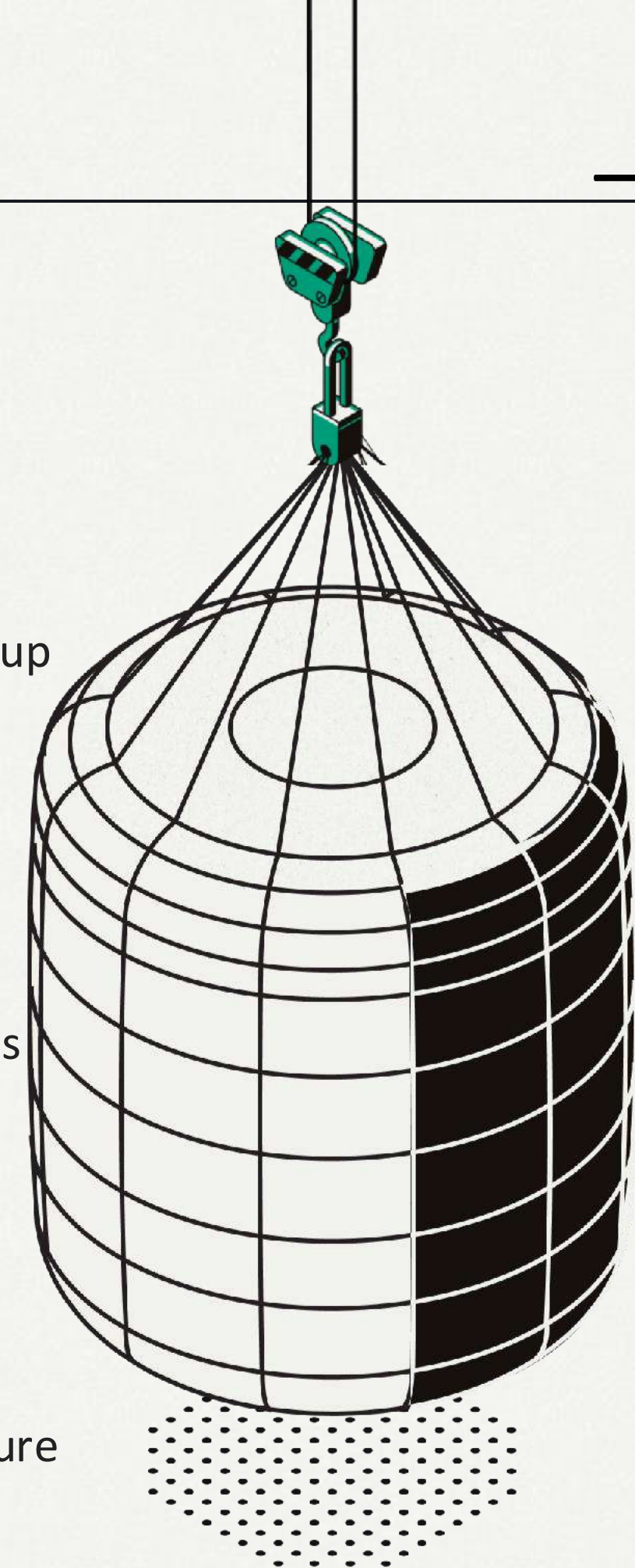
Can be used at outdoor temperatures
ranging from **+80°C** to **-60°C**



Environmentally friendly and
sustainable, reusable, lifespan up to
10 years



IP65 water resistant and dust enclosure



Benefits for Ports

1 You can store FBC in an open warehouse area up to 3 and in some cases, up to 4 tiers

This allows you to make the most efficient use of the port and port territory.

2 The safety of cargo in the vessel in comparison with transportation by big bags is much higher —

FBC do not tear, are not subject to abrasion, are much more stable in the vessel due to their geometry and design

3 Loading speed general cargo in comparison with big bags above

more than twice due to a significant reduction in the number of operations

4 Loading in bulk from FBC by complexity

is no fundamentally different from loading with a conveyor or grab

5 With the appropriate infrastructure (heavy-duty cranes), you can **load into the vessel or offloading 4 FBC at once** with a total weight of up to 56 tons simultaneously

6 In most cases **no need for additional equipment**

7 **Water resistant and dustproof are confirmed** IP65 certification and allow you to store hydrophobic cargoes in an open area

8 Advance preparation of the ship's batch **will significantly reduce the loading time of the vessel**

Basic port operations with FBC

FILLING FBC



STORAGE

- Up to 4 tiers high (less than 12 m)



TRANSPORTATION

- up to 5 FBC



Basic port operations with FBC

FORMATION OF THE SHIP'S BATCH



LOADING INTO THE VESSEL



DISCHARGING CARGO FROM THE FBC
TO THE HOLD



Types of Equipment Used

HEAVY DUTY FORKLIFT



PORT HOPPER



LOADING FRAME WITH A SPREADER



CONVEYORS



FILLING SPREADER



CRANES





- FBC provides IP65 protection
- Environment friendly during filling and discharging operations
- Reusability up to 1000 cycles
- Included in UN recommendations for the transportation of dangerous goods
- Eliminates dust pollution
- No environmental cost
- No cleaning costs of transport means or storage areas

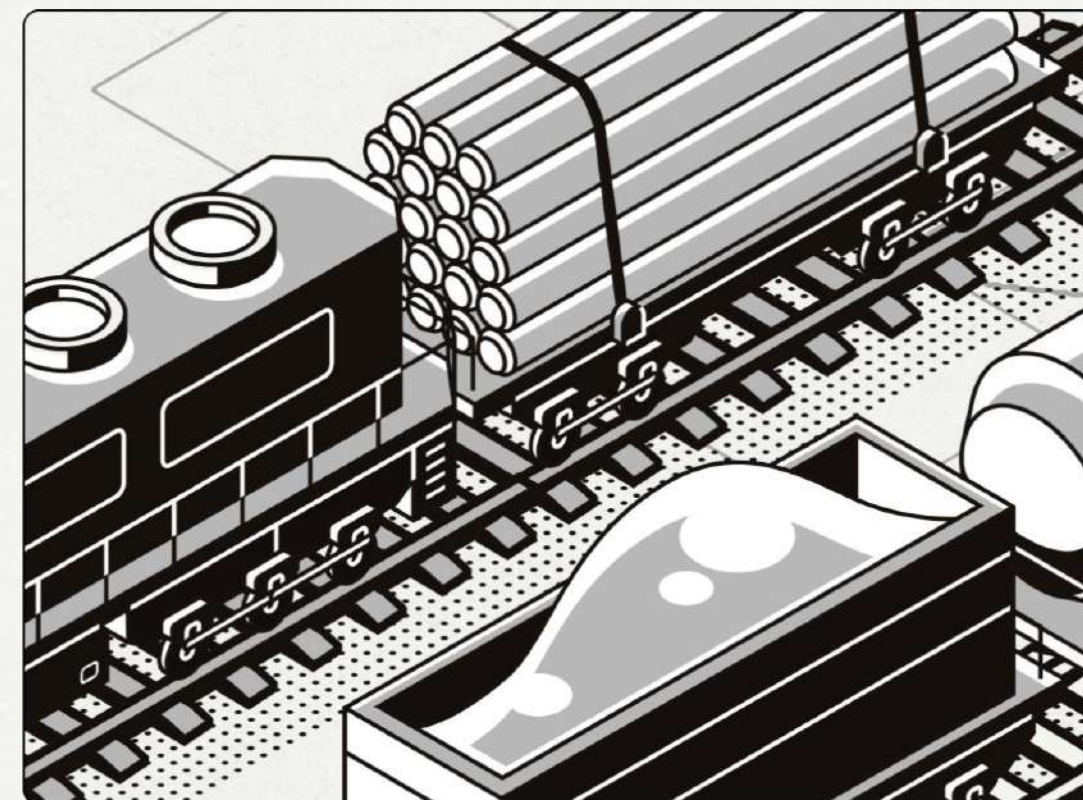
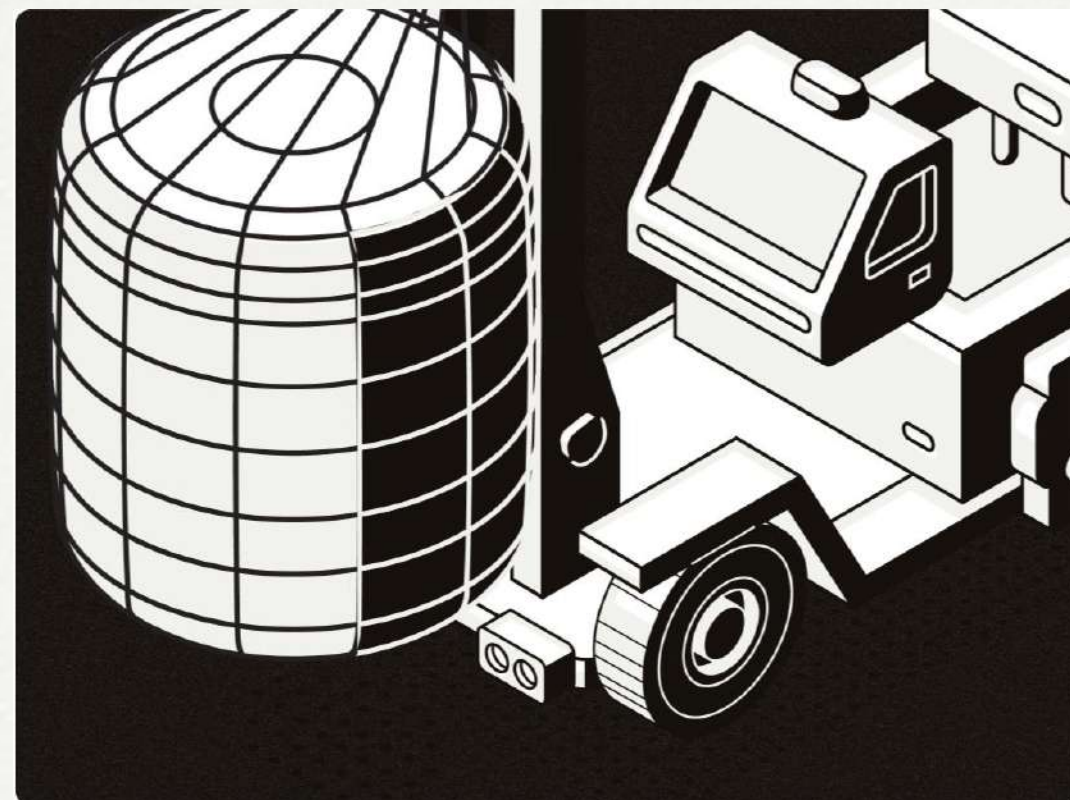


Cargo examples

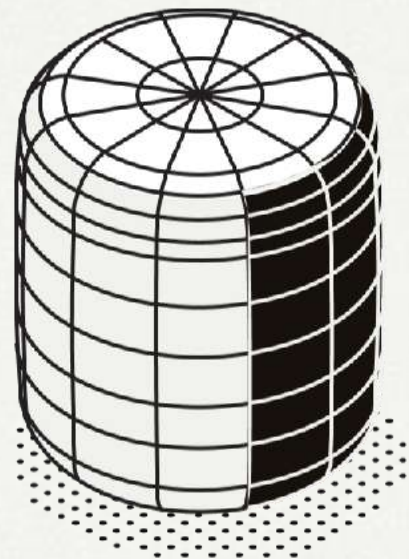


- Sulphur
- Cement
- Mineral fertilizers, potash, phosphate ores and concentrates
- Chemical salts (potassium salt, magnesium salt, etc.), various types of sodium carbonate
- Aluminum oxide
- Metal ores and concentrates (iron, zinc, copper, nickel, etc.)
- Raw materials for glass industry (quartz sand, limestone, etc.)
- Raw sugar
- Grain (wheat, corn, barley, etc.), flour, starch
- Gravel, peat
- Bio fuels (pellets, briquettes)
- Charcoal
- Flotation concentrates
- Ilmenite, Zircon
- and any more...

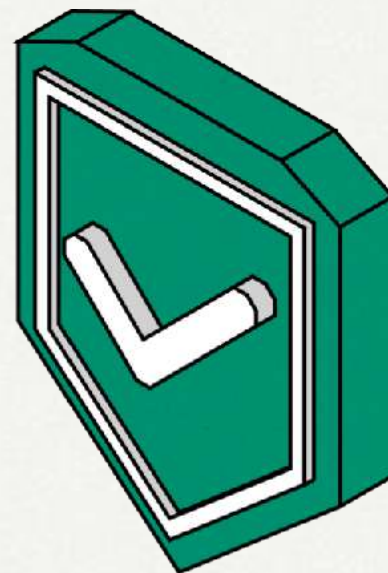
Cooperation



When maintenance contract is included, we provide unlimited warranty for the duration of the contract, no matter how long



Supply FBC in a condition that meets filling, transportation and cargo safety requirements of the client



Any risk or damage caused by design or manufacturing defects



The permissible period of storing of Cargo in FBC, ensuring its preservation of all qualitative parameters, as stated in the specification sheets, from the time of filling the bag until its discharge – up to 60 (sixty) days, and for quickly caking cargo – up to 45 (forty- five) days.

Main models of interaction

Port as **Customer**

You can use our FBC by yourself to increase volumes transshipment and storage cargo, for example, avoiding the loss of time and large investments in the silos being built

Port as **Partner**

You can suggest your stevedoring partners to organize an additional site within the port and the port area for storage and transshipment of bulk materials with our FBC and make is a separate business unit

Port as **Agent**

You can suggest your customers using our FBC, which will allow you to get the most out of the use the port for their loading and unloading Operations.

Clients and geography

Clients

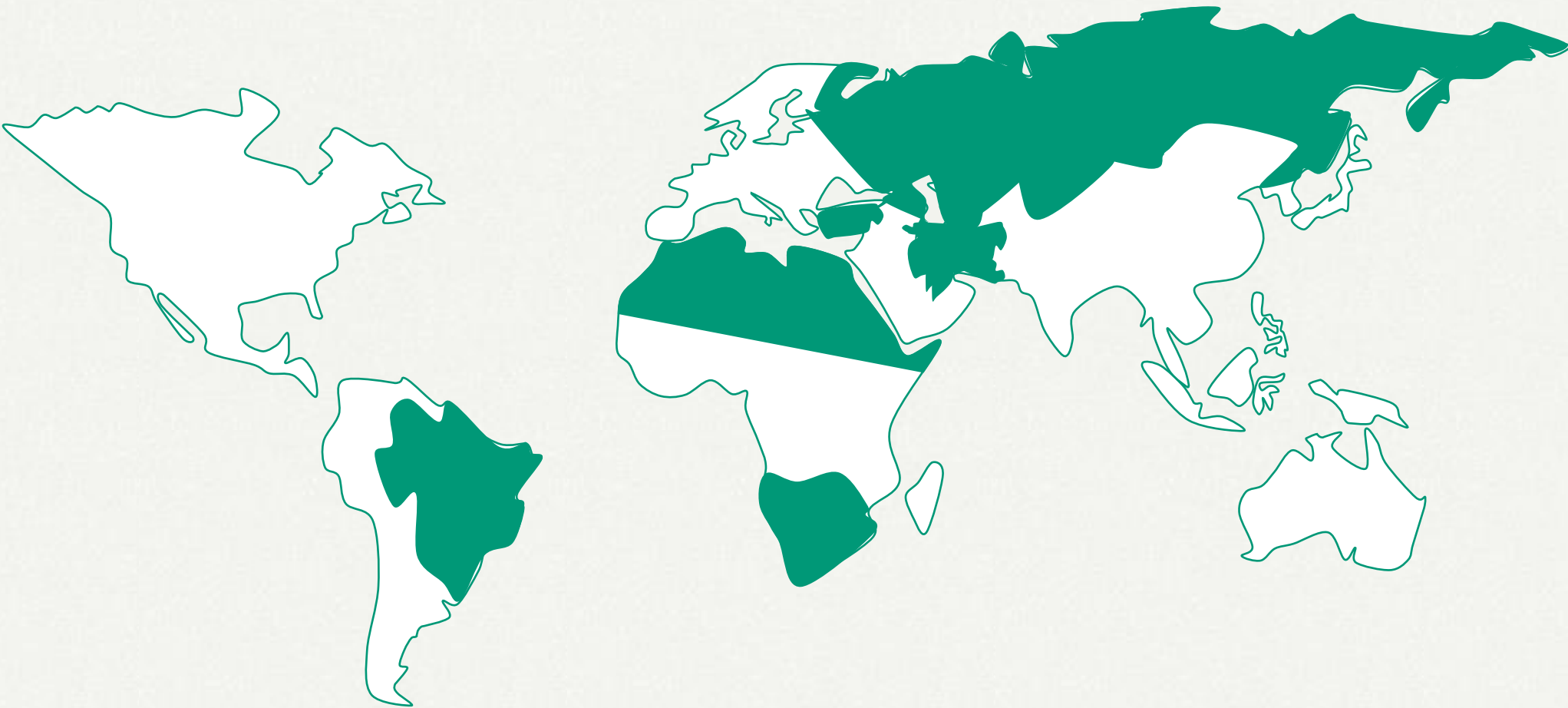
Resources & commodities traders
Mining companies
Logistics providers
Freight forwarders
Port operators
Transport services providers

Types of services

Sale
Rent

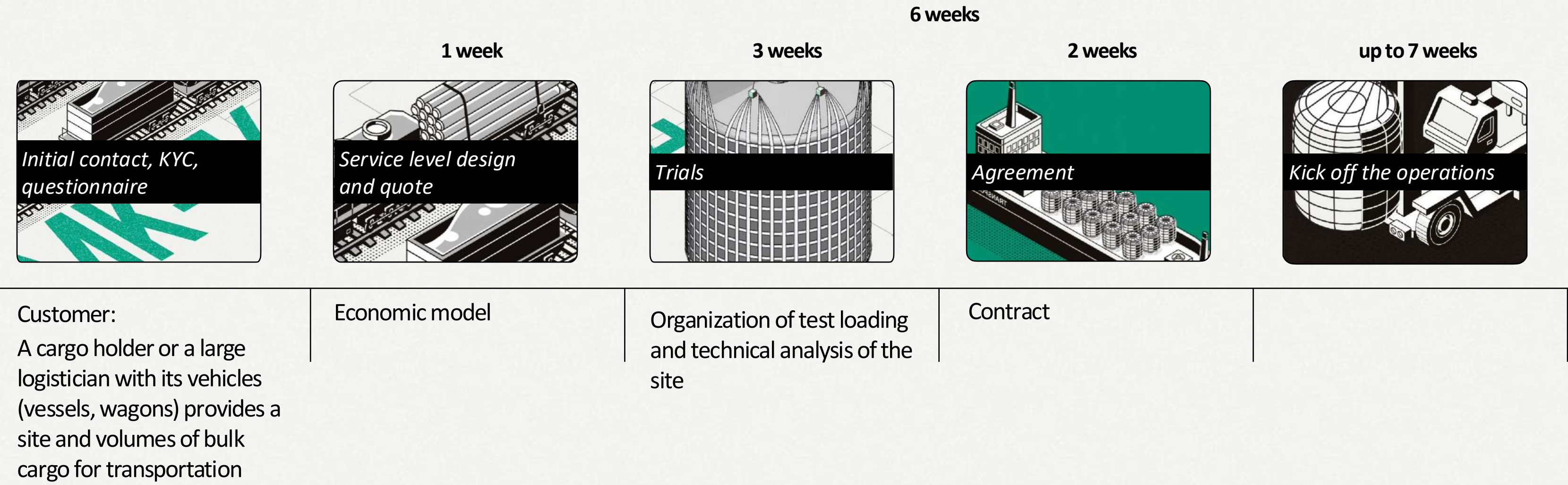
Geography

Worldwide (existent FBC operations in green marked regions)



Roadmap

We acts as a logistics service provider based on FBC technology.
We further confirm patents, UN and Lloyd's certifications



JSC «Innovations in Logistics»

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