HOW TO OPTIMISE CONTAINER PAYLOADS?

Old problem. New solutions.

BISON™

Are you utilising all of your container capacity?

If you're exporting commodities in shipping containers, chances are you're doing so to capture the many advantages of intermodal transport.

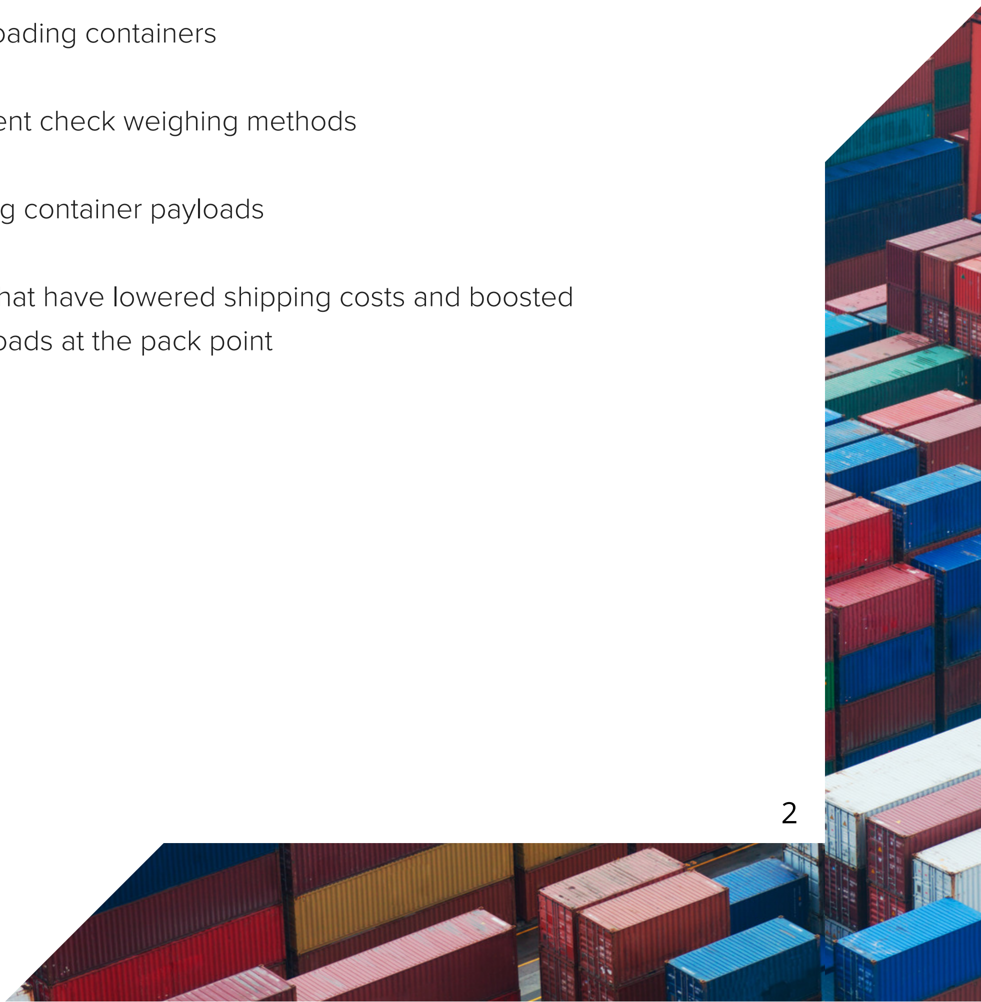
Compared with bulk transport, smaller, frequent container shipments can generate revenue faster and give you access to markets and commodity prices that might not otherwise be available to you.

Having committed to containerised freight, a critical part of your role is to understand all the ways you can lower costs and risk associated with your container shipments.

One area where you can make big gains is to improve how you manage the weight of the commodity you're shipping.

In this e-Book, you will learn about:

- The high costs of overloaded containers
- The hidden costs of underloading containers
- The pros and cons of different check weighing methods
- A new solution for optimising container payloads
- Two commodity exporters that have lowered shipping costs and boosted revenue by optimising payloads at the pack point



The high costs of overloaded containers

If you've ever had a container picked up overweight after it has shipped, it's an experience you won't want to repeat. The further from home the overload is detected, the bigger the financial damage.

Unwanted costs can include:

- Return freight charges
- Third party stripping and repacking costs
- Extra container hire and weighing charges
- Delays and missed cut off times
- Fines and penalties from affected parties

The obvious weight limits you need to be mindful of in planning your container loads include:

- **Road weight limits** - in both the country of origin and country of import.
- **Container weight capacity** - as stated on the outside of the container.

Your loading operation may also be limited by the internal capacity of any liner or flexitank inside the container. Overloading these can lead to leaks, ruptures and cargo write-offs, costing you thousands of dollars.

Given the risk of high one-off costs from overloading, it's a natural tendency to underload the container. However underloading, even by a small amount, can be costly too.

The hidden costs of underloading containers

The message here is simple. If you are underloading your containers, you are paying more in shipping costs than you need to!

When you think of each individual container load, the cost may not seem high, however the aggregate cost over the course of a year can be staggering.

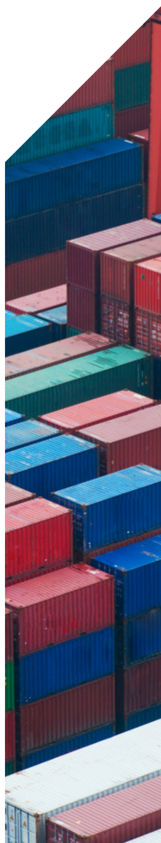
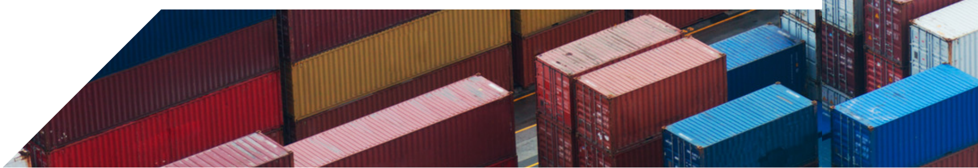
Think, if you could safely increase the payload of each container by 10%, you would ship 10% less containers per year. If you shipped 200 containers in a season, at an average shipping cost of $2,000 per container, underloading by 10% costs your business $40,000 each season. Here's a simple example:

Seasonal Output	3,600 tonne
Season Length	12 weeks
Average Weight	18 tonne
Optimised Weight	20 tonne
Shipping Cost	$2,000 per container
Commodity Price	$1,000 per tonne

	Average	Optimised	Difference
Shipping Costs	$400,000	$360,000	$40,000
Cost of Capital	$6,120	-	$6,120
Total Savings			**$46,120**

Another, less obvious cost of underloading containers is the negative impact on revenue and cash flow. Underloading delays sales and cash receipts and increases the cost of funding your business. Or to put this another way, if you optimise each container load, you can realise more in sales receipts sooner and free up capital for other things.

This cost turns on the time value of money in your business. With a commodity worth $1,000 per tonne and a cost of capital of 12%, optimising your container loads by 10% could be worth another $6,120 to your business each season.

Why it's hard to optimise container payloads

Despite the costs of both under and over loading, containers are regularly loaded blind.

All too often, your loading team won't know exactly when to stop loading and will simply use their best judgment to estimate (or guess!) when the container is full. To avoid the high, one-off costs of shipping overweight, your team may tend to underload instead.

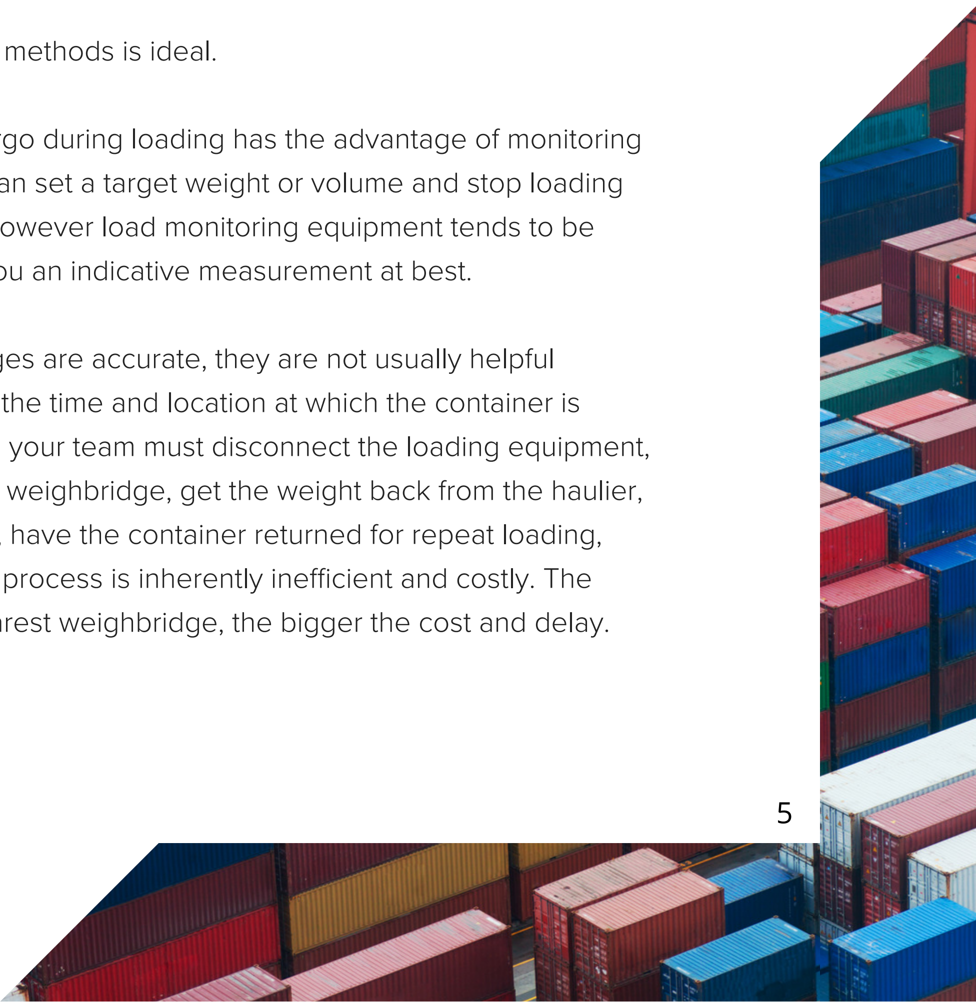
The following table shows the two traditional methods for optimising container loads of bulk commodities:

Method	Equipment	Main Advantage	Main Disadvantage
Measure the cargo during loading	Belt or check weigher Flow metre	Real time measurement	Low accuracy
Weigh the container after loading	Weighbridge	High accuracy	Late measurement

Unfortunately, neither of these methods is ideal.

Weighing or measuring the cargo during loading has the advantage of monitoring the payload in real time. You can set a target weight or volume and stop loading once that target is achieved. However load monitoring equipment tends to be inaccurate and will only give you an indicative measurement at best.

And, while certified weighbridges are accurate, they are not usually helpful for payload optimisation given the time and location at which the container is weighed. To check the weight, your team must disconnect the loading equipment, have the container hauled to a weighbridge, get the weight back from the haulier, then depending on the weight, have the container returned for repeat loading, haulage and re-weighing. This process is inherently inefficient and costly. The greater the distance to the nearest weighbridge, the bigger the cost and delay.



A new solution for optimising container payloads

If you are loading containers blind, or using an inaccurate or poorly timed check weighing process to manage the payload, portable container scales could really enhance your shipping operation.

Unlike other check weighing methods, portable container scales allow you to accurately weigh the entire container, in real time, at the loading point, while the container is being loaded.

With portable container scales, you can weigh the empty container, liners and dunnage, and get precise tare and target weights before loading begins.

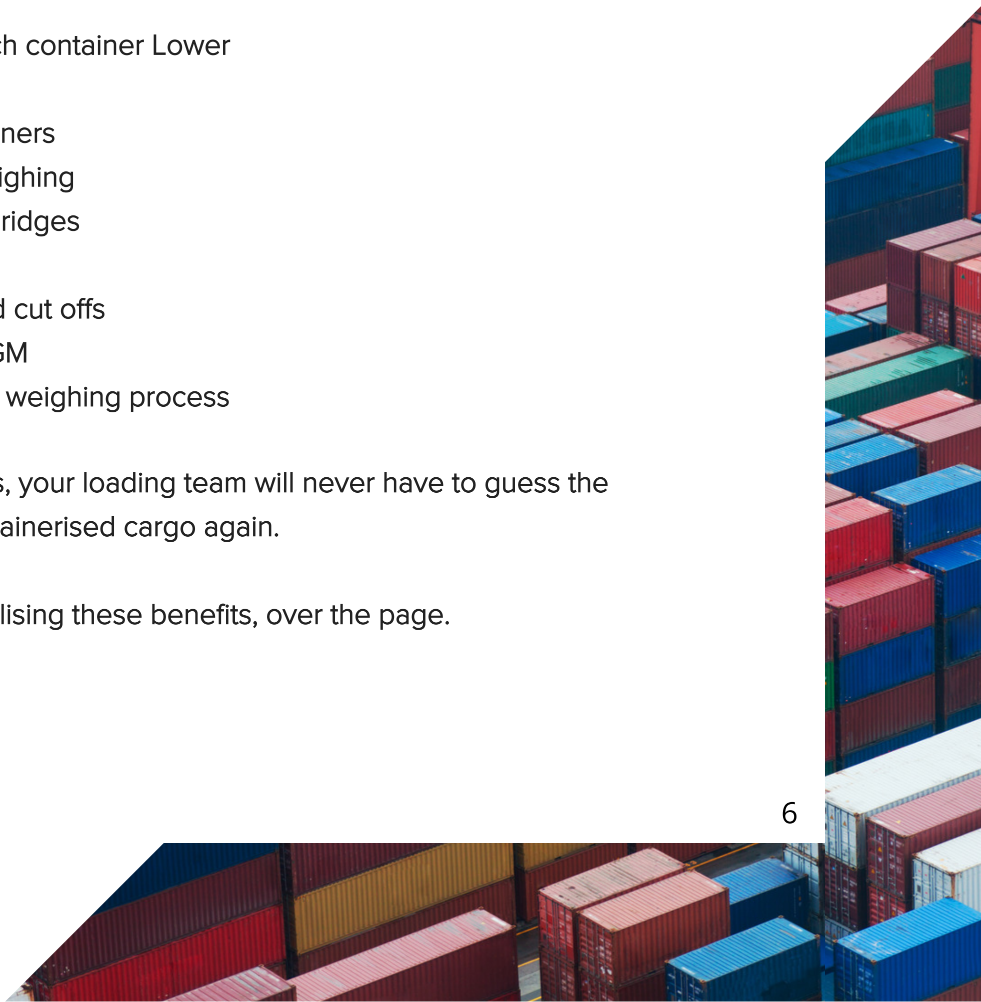
You can then get a real time view of the gross weight and net payload during loading, and an exact indication of when the optimal weight is reached and loading should stop. With liquid cargo, you can use the weight and liquid density to calculate and optimise the volumetric payload.

By optimising the container payload, you can get a fast and material return on investment on many levels:

- Maximise revenue from each container Lower
- shipping costs
- Eliminate overweight containers
- Avoid re-loading and re-weighing
- No more detours to weighbridges
- No more weighbridge fees
- No more delays and missed cut offs
- Early confirmation of the VGM
- Full control of the container weighing process

With portable container scales, your loading team will never have to guess the weight or volume of your containerised cargo again.

Read about two exporters realising these benefits, over the page.



Talley's

Fish Oil Exports

- Talley's wanted to optimise container loads of fish oil in flexitanks.
- Containers were sometimes shipped up to 2,000 litres underloaded.
- Check weighing at a weighbridge disrupted loading, added costs and caused delays.
- With BISON Container Scales, Talley's now optimise container loads at the loading point.
- BISON Container Scales have increased profitability, reduced shipping costs and eliminated delays.

For more details visit here: **https://www.bison-jacks.com/why-bison/case-studies/talleys/**

BlueSky Meats

Bone Meal Exports

- BlueSky Meats were unable to check the weight of container loads of bone meal at their plant.
- With the nearest weighbridge 30km from the plant, the company experienced unwanted costs remedying overweight and under loaded containers.
- BlueSky Meats adopted BISON C-Legs and now optimise container loads of bone meal by weighing the container in real time during loading.
- BlueSky Meats are now maximising revenue from each container load of bone meal.
- Haulage costs are streamlined. Weighbridge fees have been eliminated. Returns, re-work and scheduling delays are now avoided.

For more details visit here: https://www.bison-jacks.com/why-bison/case-studies/bluesky-meats/

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