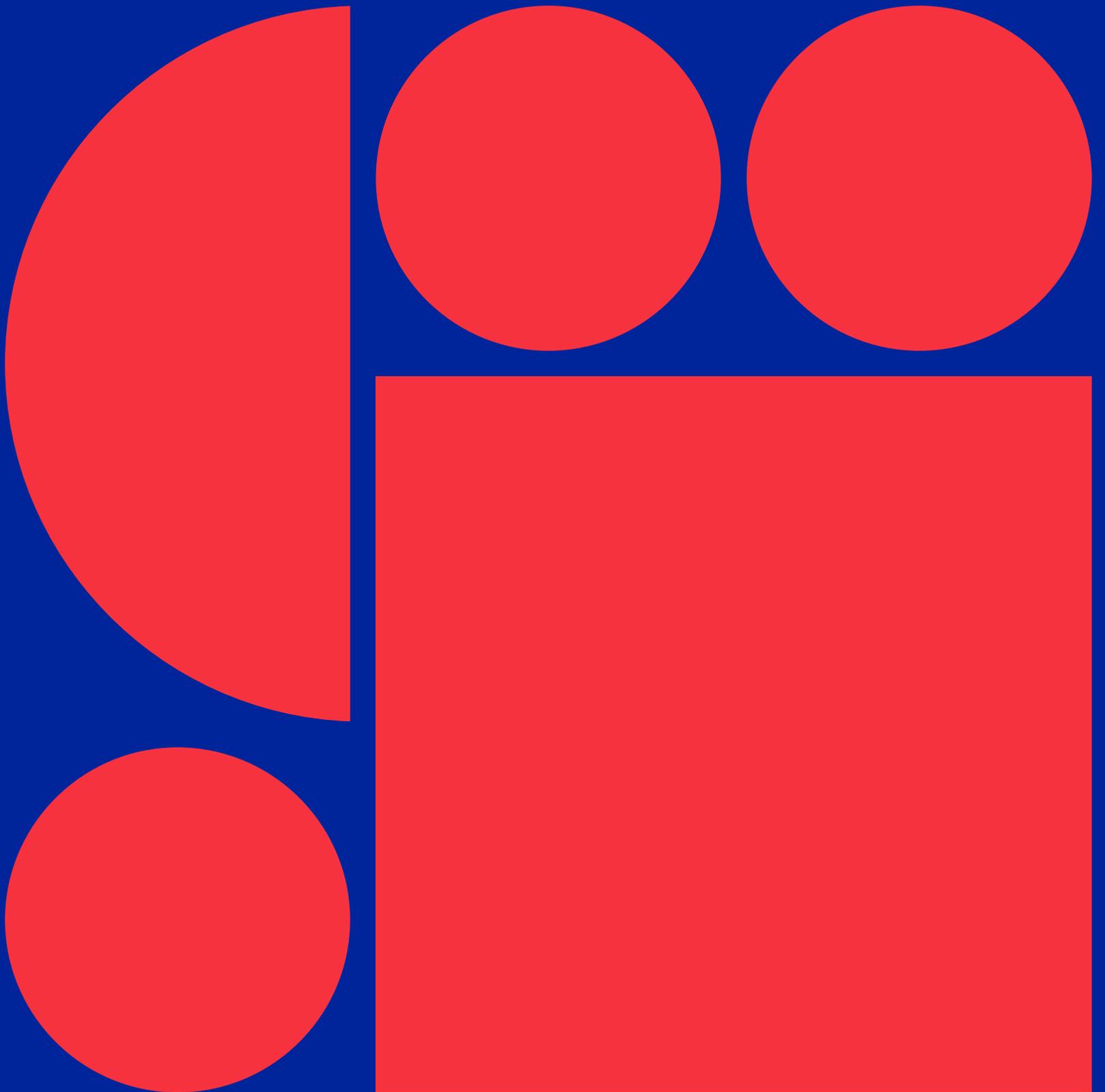


Product Load Optimisation

CHEP
A Brambles Company



Shipping more for less.

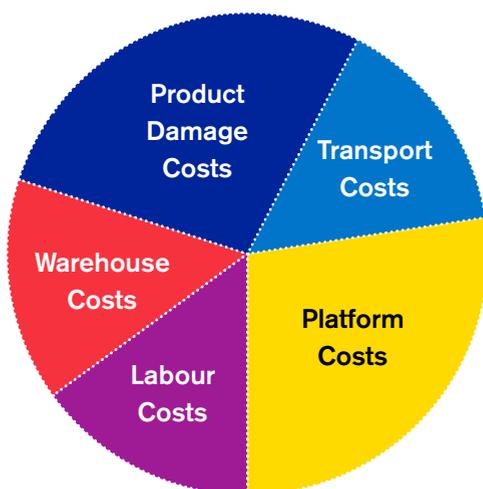
This is the Supply Change.™

The opportunity:

A small improvement in how much product you can move on a pallet or in a container can lead to significant cost reductions. You can get these savings—savings that lower labour costs, handling costs, distribution platform costs and transport costs—often with no operational change.

CHEP makes Product Load Optimisation simple. Our process is customised, efficient and cost-effective—especially when you consider that many companies experience an ROI of up to 400% from this initiative. That's what can happen when product loads are optimised every day, for every load.

Optimised product loads typically reduce:



What we do:

Only CHEP combines the expertise of our experienced engineers, state-of-the-art software and access to testing at accredited testing facilities. CHEP brings together two unique capabilities—product load configuration and packaging testing—in one solution. Together they help you configure maximum load efficiency for every load and test configurations to ensure real-world success.

This can help you move product more economically, reducing fuel and labour costs. It also helps you make the most of your manufacturing and warehouse space. What's more, Product Load Optimisation helps many customers "find money" in their supply chains. By periodically testing how and what you're shipping we find new ways and new efficiencies that often result in new savings.

We take into consideration individual packaging dimensions, the total product load weight and the weight capacity of the truck. Each case pack is then placed in the ideal location and direction, building a product load design that can carry the maximum amount of product securely with minimal damage.

Then we'll make sure everything works in the real world. In testing labs, we'll simulate distribution hazards associated with handling operations, warehouse stacking, transportation and atmospheric conditions. We'll also look at the impact of transportation, forklifts, automated systems, manual handling and environmental conditions. Once lab tests are completed, we'll design and execute field-test programs to ensure everything works as planned.

Our local test-lab partners are certified by the South African Bureau of Standards. CHEP's Innovation Center is certified by ISTA, representing manufacturers and packaging suppliers, working together to ensure responsible packaging.



How we'll work together:

CHEP couples software analysis of your product loads with exhaustive in-lab and real-world testing. We'll collaborate with you in designing the optimal product load as well as the right testing to make sure it performs. This collaborative process is your assurance that you're doing everything to get the most out of your product loads.

Optimising by putting software and testing together:

- + We'll identify your product load optimisation needs and determine the number of configurations to evaluate
- + We'll verify the product load metrics important to you, complete all agreed-upon optimisations, then test and analyse all potential optimisations
- + We'll compile a full test report, with product load diagrams and test data, then review all results with you and determine if additional studies are required

Optimising your product load in four to six weeks:



Identify

Identify your packaging testing needs and determine the number of samples needed for evaluation.



Confirm

Confirm what data is important to you and complete all required testing needs.



Validate

Validate and analyse all test data. Evaluate all tested product for damage and compile full test report with data and photographs.



Review

Review all results with you, determine if additional testing is required and conduct follow-up audits as needed after test completion.

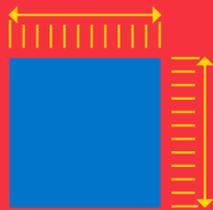
Can you benefit from Product Load Optimisation? Yes, if:	
◆	Your product or packaging changed without validation.
◆	You want to reduce freight and/or labour costs.
◆	Your product load is unstable through the supply chain and not durable.
◆	Your customers are receiving damaged product.
◆	You're using custom-sized pallets and would like to transition to industry standards.
◆	Your product loads have never been optimised.

How we'll improve your product loads together.

Step 1: Computer software optimises product load configuration

Learn

Research and review product load requirements. Define test parameters.



Analyse

Run computer analysis of data for product load optimisation.



Recommend

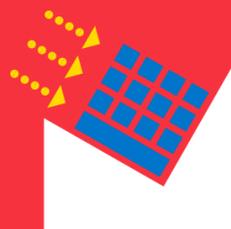
Review computer report. Determine if revisions or package testing are needed.



Step 2: Lab testing product loads in simulated real-world conditions

Impact

Simulation of impact in handling operations. Repeatable impact tests with speeds up to seven miles per hour.



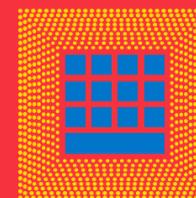
Compression

Simulation of up to 22 680 kgs of compressive force in loading and racking.



Vibration

Simulation of vibration from all transportation modes, including truck, rail, air and sea shipments.



Environmental

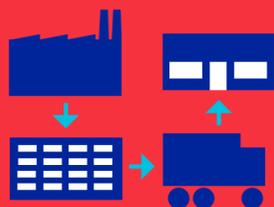
Simulation of a -30°C to 85°C temperature range and relative humidity range of 20% to 95% on product performance, pallets and containers.



Step 3: Field testing product loads in real-world environments

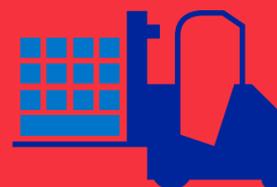
Learn

Review customer's existing supply chain processes. Define test parameters for new configurations.



Analyse

Put optimised product loads through real-world processes to test for stability and effectiveness.



Report

Review results. Determine if additional tests are needed.



How you'll benefit:

Product Load Optimisation is one of the simplest ways to realise improvements throughout your supply chain. We can help you:

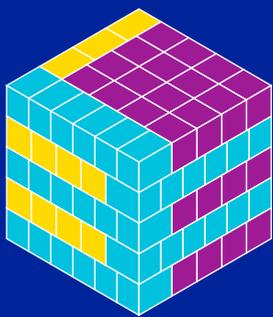
- + Configure individual case packs in a way that places the greatest possible amount of product onto a pallet or into a container
- + Understand the impact of the supply chain on new products, and on new primary, secondary or transit packaging
- + Reduce distribution platform procurement costs, shipping material costs, transportation costs, labour costs and material handling costs
- + Gain a better understanding of certain conditions that play a role in product damage
- + Get detailed information on the performance of product loads throughout your supply chain on different platforms
- + Discover the optimal mix of product, packaging and product load transit packaging
- + Optimise both product and trailer loads so you can significantly cut transportation costs and reduce carbon footprint
- + Use more sustainable packaging with less corrugate and shrink wrap.
- + Optimise space utilisation of manufacturing and warehouse facilities
- + Reduce costs associated with primary packaging, secondary packaging, transit packaging (slip sheets and shrink wrap) and shipping platforms
- + Certify product loads being shipped down your supply chain

Only CHEP:

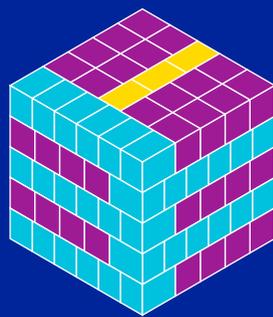
Only CHEP offers product load configuration, in-lab packaging testing and real-world performance evaluation in one solution, backed by the experience of CHEP's engineers and our ISTA-certified Innovation Center. We can simulate and test every impact factor within every leg of your supply chain, to eliminate real-world mistakes. We've done this for many of the largest companies around the world. We look forward to working with you as well.

Global Good: Last year through Product Load Optimisation, we helped our customers move more product per distribution platform and optimise space inside truck trailers. This eliminated thousands of loads and thousands of kgs of carbon from our atmosphere. It's all part of CHEP's Better Planet initiative as we work to minimise the impact of the Supply Chain on the environment.

Real-world ROI from Product Load Optimisation.



L Configuration

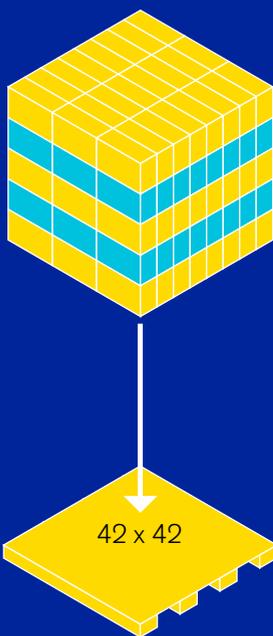


T Configuration

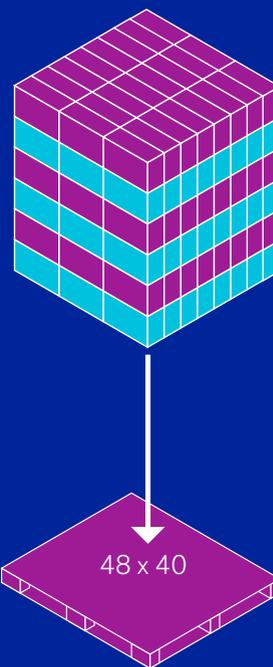
We showed a beverage company how switching to a T configuration could increase product shipped per load by 25%.

We showed a South African poultry supplier how switching from cardboard to CHEP RPCs improved their pallet utilisation by 33%.

	Current	Proposed
Items per case	12	16
Kgs per case	14.75	19.67
Cases per pallet	50	50
Kgs per pallet	737.5	983
Items per pallet	600	880



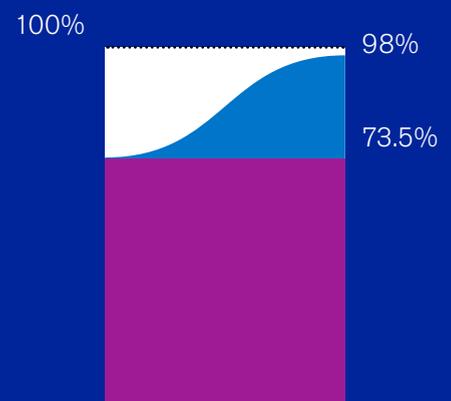
42 x 42



48 x 40

We showed a U.S. customer how switching from a 42" x 42" to a 48" x 40" pallet enabled them to ship 20% more product per load.

Pallet utilisation increase



**This is the
Supply Change.**

**Together we can
make it happen.™**

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Product Load Optimisation.
Just 1 of 20 Consumer Goods
Solutions from CHEP.

If you're looking to improve
your supply chain, let's talk.



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Africa, India & Middle East

CHEP House
7 Westville Road
Westville 3629
Durban, South Africa
Tel: +27 (0) 31 267 9300

Europe

Weybridge Business Park
Addlestone Road, Addlestone
Surrey KT15 2UP
United Kingdom
Tel: +44 1932 833115

North America

5897 Windward Parkway
Alpharetta, GA 30005, USA
Tel: +1 770 668 8100

Asia Pacific

Level 6, Building C
11 Talavera Road
North Ryde NSW 2113
Australia
Tel: +61 2 9856 2400

Latin America

Bld. Manuel Ávila Camacho
N°24 Piso 23
Lomas de Chapultepec
11000
México D.F.
Tel: +52 (55) 8503 1100

www.CHEP.com