



Zero
Waste
World

Less resources, more value, together



Brambles



Graham Chipchase, Brambles CEO

The way the world makes, moves and sells goods is being transformed. Businesses are being asked to meet growing consumer demand faster, easier, and cheaper – and at the same time shrink the impact of their operations.

At Brambles, we connect people with life's essentials, every day – moving more goods to more people, in more places than any other organization on earth.

That network scale and visibility puts us in a unique position. We can work together with manufacturers and retailers to solve big, shared challenges – saving them time, money, and resources, and creating value for society.

To accelerate that, we're setting up Zero Waste World, a new working collaboration for leading companies committed to creating smarter and more sustainable supply chains.

Using our network visibility and the power of our logistics platform, we want to help our customers find new ways to crack three big issues: How can they eliminate waste, eradicate empty transport miles, and cut out inefficiency?

Overcoming these shared challenges will take concerted effort and collaboration, and it won't be easy. But it is vital, because it's how the world's leading companies will thrive and grow while creating value for society as a whole.

THE DUAL CHALLENGE

Meeting consumer demand in a smart and sustainable way

At Brambles, we asked a wide range of customers in a variety of sectors – plus leading industry experts from Europe and North America – about the most pressing challenges in the supply chain.

WE SPOKE TO ORGANISATIONS INCLUDING:



OUR CUSTOMERS TOLD US:

Changing patterns of consumer demand are creating a 'dual challenge'...

"The rise of convenience shopping, smaller shop formats, and e-commerce mean that we're faced with smaller order sizes and more frequent deliveries – which increases complexity, increases transport miles, and increases the risk of waste"

"Our target is to satisfy our consumer without impacting on the environment and on the planet's resources. The great challenge is that consumer demand is leading to bigger environmental impacts because of the higher frequency of orders and home deliveries."

The volume of goods shipped will quadruple by 2050



...And leading companies are looking for collaborative solutions...

"We are very hungry for partners in the supply chain that can support us to find smarter, better, cheaper, more competitive solutions"

"All industry players recognise that there is no space for competition in this regard. Collaboration is the name of the game because these shared challenges impact everyone"

...Because solving these shared challenges brings business benefits as well as societal benefits.

"Agendas like being more sustainable, reducing waste – they're connected to our drive to find cost-savings"

"The right packaging improves the shelf life of products and reduces waste, which reduces shrink, which saves us money. And is of course better for the environment and better for society"

1

Eliminating Waste

Leading consumer goods companies and retailers see physical waste as a significant risk. They're under pressure from consumers, employees, investors, and social stakeholders to reduce single-use packaging and unsaleable products – because these issues have an impact on both their bottom line and our shared global resources. That's why many are setting major public commitments to move towards 'zero waste'. Now they're looking for smart ways to make that a reality.

INSIGHTS

Packaging and food waste have become a global concern



The New York Times

**The Immense, Eternal Footprint
Humanity Leave on Earth: Plastics**



FINANCIAL TIMES

**Retailers, distributors and growers
struggle to curb food waste**

INSIGHTS

The statistics highlight the scale and urgency of the challenge

91%

of the world's plastic packaging isn't recycled, and 8 million tonnes of plastic ends up in the ocean every year

— ScienceAdvances 

30%

of the world's food is wasted each year, but every \$1 invested in food waste policies brings \$14 in return

—  Food and Agriculture Organization of the United Nations

34.8 million

tonnes of paper and cardboard packaging were wasted in the EU alone between 2006 and 2015 – and in the USA, 90% of all raw materials ultimately end up in landfill or incinerators

— eurostat  U.S. PIRG

TARGETS

Leading companies are stepping forward to set bold targets for waste reduction



Retailers like Kroger and Tesco have set 'zero waste' targets for food and packaging:

"We believe that what gets measured gets managed. Ultimately, the only way to tackle food waste is to understand the challenge - to know where in the supply chain food is wasted"

– Dave Lewis, CEO, Tesco



Leading FMCG companies are trialing new models to tackle packaging waste

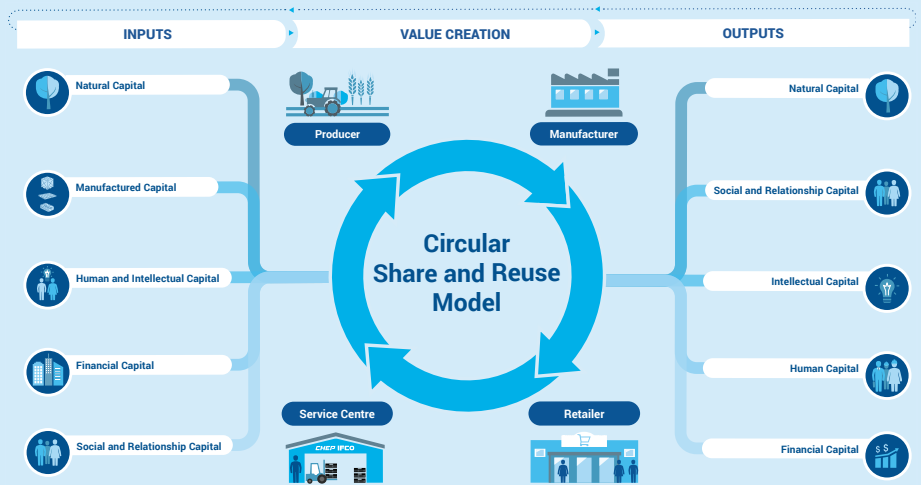
At Davos 2019, leading companies including Procter & Gamble, Nestlé, Unilever, PepsiCo, and Danone announced the 'Loop' initiative in partnership with recycling company Terracycle. The coalition will offer consumers everyday items in reusable packaging, which is then picked up from the doorstep to be cleaned, refilled, and reused.

At Brambles, our position in the supply chain – and our circular economy share and reuse model – means that we can help



Brambles' circular share and reuse model helped our customers save 1.4 million tonnes of waste in FY17 – and typically reduces the waste generated by 66%, when compared with alternative systems

Our unique position in the supply chain allows us to enable other waste reduction initiatives using our reverse logistics capabilities



Our circular economy expertise and experience has helped customers switch from one-way packaging to reusable units – saving resources, and ultimately cost

PROGRESS

Eliminating waste in partnership with some of the world's leading companies



Reducing wood waste with Walmart

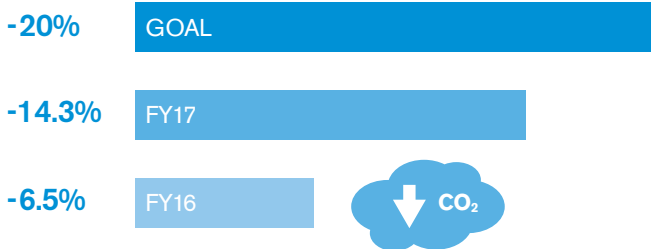
Leftover display units pose a significant challenge for retailers – taking up space, adding cost, and wasting natural resources. Walmart Canada's 400 stores were struggling to process empty wooden racks in their gardening department. Using Brambles' unique reverse logistics expertise, we developed a plan to use the empty leg of

Walmart truck journeys from the store back to the distribution centre to divert this waste to nearby recycling facilities. This salvaged 2,000 tonnes of waste wood, which was reclaimed for bio fuel and for reuse as chips, sawdust, and bedding for farm animals.

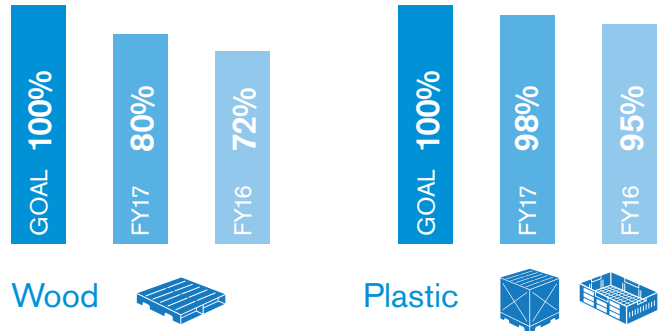
PROGRESS

How Brambles has partnered with our customers to reduce their impacts

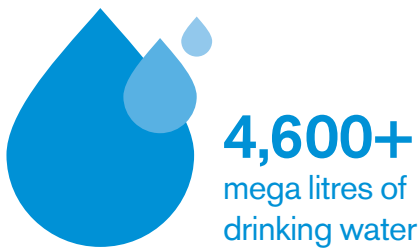
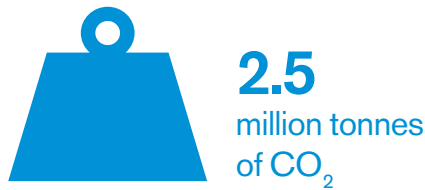
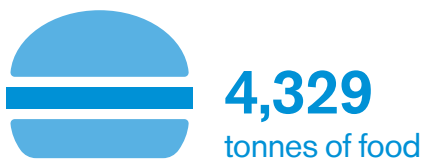
Carbon reduction per unit delivered



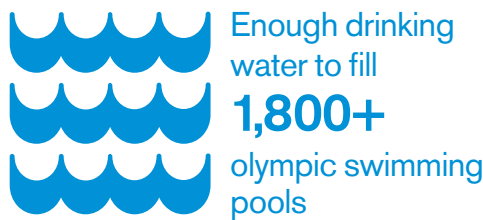
Sites achieving zero waste



Customers saved



Equivalent to



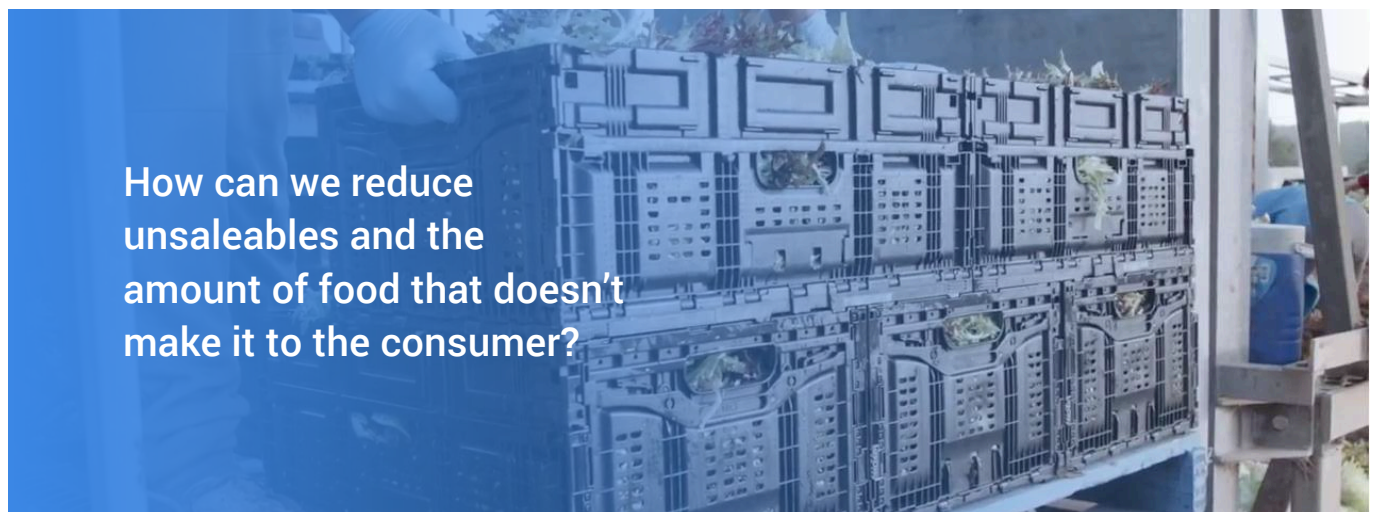
BREAKTHROUGH CHALLENGE AREAS

Eliminating waste is a reputational imperative and commercial opportunity for manufacturers and retailers alike

Within the Eliminating Waste agenda, Brambles' customers and solutions experts identified three specific breakthrough challenge areas where new collaborative approaches could unlock significant shared value:



How can we reduce, upcycle, or unlock additional value from single-use packaging?



How can we reduce unsaleables and the amount of food that doesn't make it to the consumer?



How can companies' operations become more circular, and work towards 'net positive' supply chains?

2

Eradicating empty transport miles

Leading FMCG companies are challenged by cost inflation, environmental impacts, and driver shortages in their logistics and transportation systems. Wasted and empty truck miles increase fuel expenditure and CO₂ emissions, and can even increase delivery times – affecting profitability, and undermining efforts to make a positive contribution to society. They're looking for collaborative solutions to reduce the cost and impact of their operations.

INSIGHTS

Transport is an increasingly problematic source of cost and emissions for businesses



IGD

Empty running of freight transport and poor weight loading costs Europe around €160bn annually

– with more than 25% of journeys in the EU running with partial or empty loads, and 85 billion km of empty truck journeys



THE ECONOMIST

Every year, US trucks drive 50 billion miles without cargo

– which represents 28% of the total distance they travel



UK GOVERNMENT

As the carbon intensity of power generation declines

– due to the changing energy mix, transportation is becoming a leading source of emissions in countries like the UK

INSIGHTS

The statistics highlight the scale and urgency of the challenge

78%

of retailers in Europe see reducing road miles as a significant opportunity in their supply chain



In the US, the EPA-led SmartWay coalition brought together 15 companies and freight sector associations to address long-term changes in the transport sector. Since 2004, it has **lowered fuel costs by \$29.7 billion and reduced emissions of harmful air pollutants by 103 million tonnes**



Through a concerted programme of activity, Unilever has achieved a **31% reduction** improvement in CO₂ efficiency through avoiding wasted journeys and reducing the overall level of miles travelled



BRAMBLES SOLUTIONS

Brambles' network scale and visibility means we can work with customers on collaborative transport solutions – saving money and reducing environmental impacts

CHEP's Transport Collaboration initiative has saved 6.6 million km of empty truck journeys, avoided 6,500 tonnes of CO₂ emissions, and saved participants €8.7 million



PROGRESS

Bringing together manufacturers and retailers to eradicate empty transport miles



CHEP

A Brambles Company

Transport Collaboration

Suppliers and retailers across Europe and North America agree that collaboration is the key to saving wasted truck miles. We use our unique scale, reach and data to enable our customers to get all the benefits of transport collaboration, cutting empty miles, wasted fuel and CO₂ emissions from their supply chain.

Our Collaborative Transport Solutions use advanced data analysis to identify common transport flows, and use sharing to almost eliminate inefficient partial loads and wasted miles. It works through detecting the most efficient opportunities and then sharing the same trucks with CHEP or other CHEP customers, reducing empty distances and

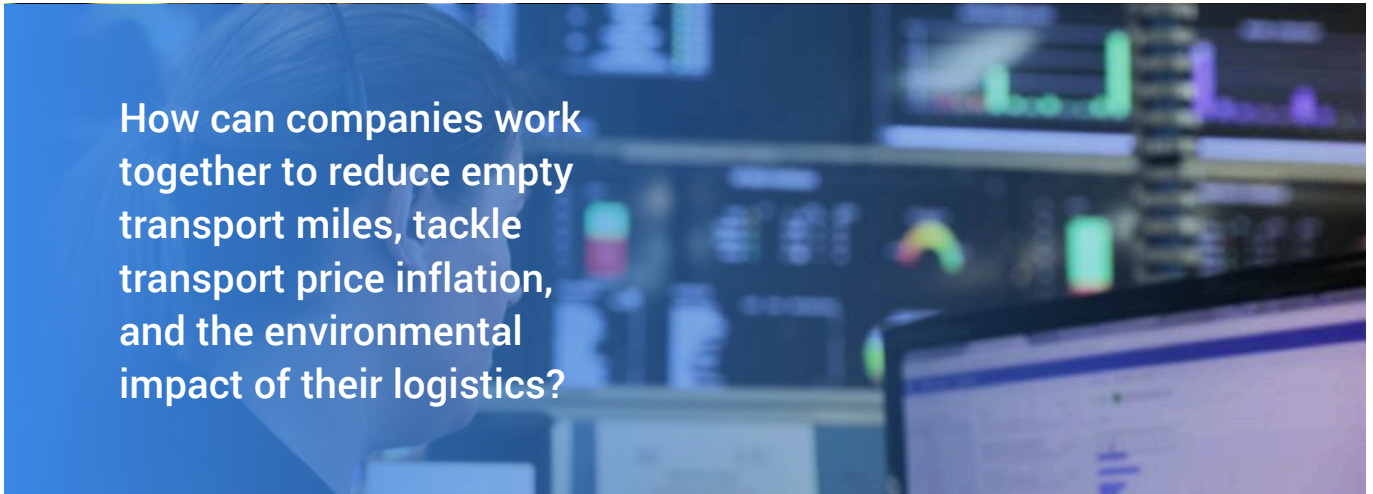
improving the payload of the transport equipment. Take Danone Waters. Their supply trains from the UK to France were returning empty. By filling this space we generated a new revenue stream for Danone.

That's just one example of how we use our own reverse logistics network, our 315,000 delivery points across Europe and more than 23,000 unique transport lanes across North America, and our unique Lane Matching Tool, to collaborate with customers to optimise the way their supply chain operates – cutting costs and improving performance while reducing environmental impact.

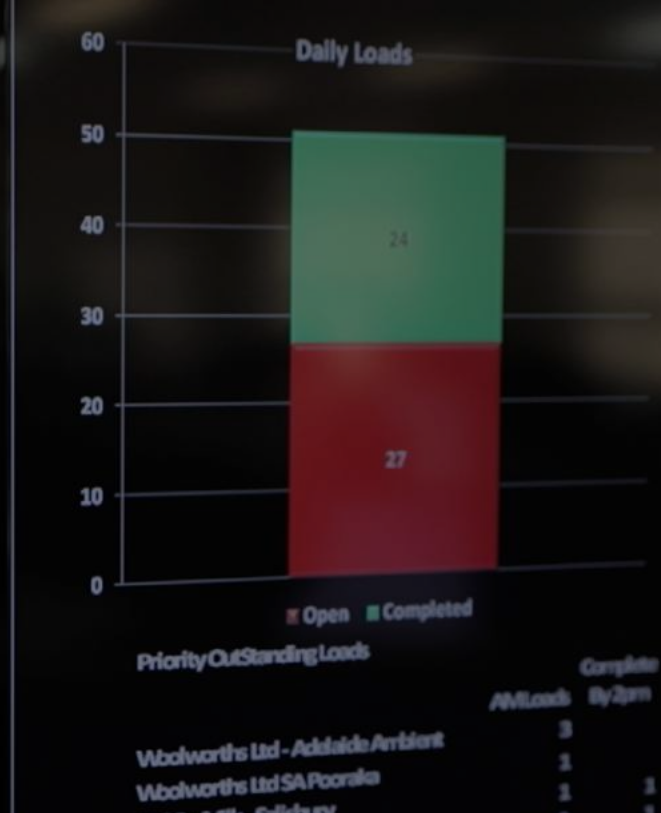
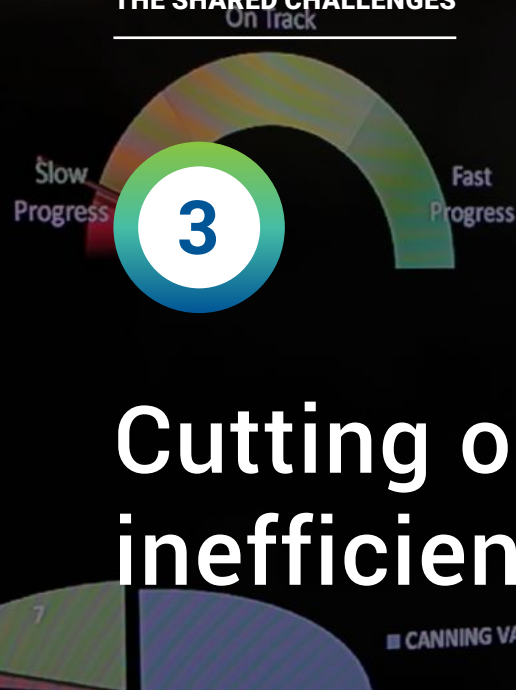
BREAKTHROUGH CHALLENGE AREAS

Eradicating empty transport miles is mission-critical for leading companies to grow responsibly and sustainably

Within the Eradicating Empty Transport Miles agenda, Brambles' customers and solutions experts identified three specific breakthrough challenge areas where new collaborative approaches could unlock significant shared value:



THE SHARED CHALLENGES



Inefficiencies in the supply chain cost leading FMCG companies time, money, and resources. They see an opportunity to use new technologies and data to cut out those inefficiencies. Whether it's hunting out bottlenecks or improving product safety and traceability, they're looking for support to enhance their visibility of goods flows so they can make better decisions.

INSIGHTS

Leading businesses and experts see the potential to harness data to cut out supply chain inefficiencies



FORTUNE
 Delivery is getting more complex, but will soon be faster and cheaper



FINANCIAL TIMES
 Smart links in the supply chain show they can deliver – speed, security, and mode of delivery could be revolutionised by the internet of things



The Hackett Group
 World Class Defined and Enabled
 66% of supply chain leaders say advanced supply chain analytics are critically important to their supply chain operations in the next 2 to 3 years



CISCO **DHL**
 There is an estimated \$1.9 trillion value at stake from implementing IoT in logistics

INSIGHTS

Companies already on this journey are unlocking significant commercial value

Enhanced supply chain visibility can increase the level of demand fulfilled by **4% to 6%**



79%

of companies with high-performing supply chains achieve revenue growth greater than the average within their industries



Revenue at companies with **integrated supply chains is outpacing non-integrated companies by 20%**



BRAMBLES SOLUTIONS

Brambles solutions can help companies build smarter and more sustainable supply chains by cutting out inefficiency



By running customers' yards on their behalf, Brambles helps leading companies streamline their processes, reduce their costs, and focus on their core business

And through BXB Digital, Brambles works with customers to use the data from IOT-enabled pallets to anticipate and avoid supply chain disruption



Using smart pallets and systems to cut out inefficiency



Data-driven solutions to shared supply chain challenges

Brambles company BXB Digital exists to help create the digital supply chains of the future. By combining physical pallets, crates, and containers with cutting edge internet of things technologies, we can illuminate the supply chain through near real-time data – helping the world's leading manufacturers and retailers to make smarter and more sustainable decisions.

That's powered by the Brambles Intelligence Exchange – or 'BRIX' – an Artificial Intelligence driven system which uses the data from IOT-enabled assets to anticipate and address bottlenecks in the supply chain. For example, combining digital and physical supply chains allows customers to:

- Improve efficiency and food safety – integrating data from across the first mile to the last mile, and downstream supply chains to enable full visibility and traceability of products into the market

- Monitor the cold chain and reduce CO₂ emissions – if a food shipment has multiple temperature breaches in transit, there's a high chance it will be rejected by the retailer: and can therefore be re-routed directly to a food bank, saving transport miles, cost, and food waste
- Identify and respond to long term trends – as the 'network of networks' and the volume of data grows, so will our ability to transform the supply chain to make it smarter and more sustainable

Through BXB Digital and BRIX, we combine the physical backbone of the global supply chain with digital intelligence to deliver end-to-end visibility, and to drive collaboration and sustainability across the supply chain.



Optimising supply chain processes with Tenneco

Automotive components supplier Tenneco lacked standardized packaging solutions and container management systems, which was compromising supply chain efficiency across its operations. We worked with Tenneco to analyse its existing processes, and then to roll out leased

and re-useable foldable large containers (FLCs). This has increased supply chain efficiency through a 30% reduction in total cost of ownership, enhanced production efficiency, and improved space utilization. It has also helped to remove more than 140,000 empty truck miles.


“Our plant materials management throughout has vastly improved. And by eliminating the need for cardboard disposal, we have also made a positive impact on the environment”

– Gary Southerland, Sr. Packaging Systems Analyst, Tenneco Automotive


BREAKTHROUGH CHALLENGE AREAS

Cutting out inefficiency is crucial to making supply chains smarter and more sustainable


Within the Cutting Out Inefficiency agenda, Brambles' customers and solutions experts identified three specific breakthrough challenge areas where new collaborative approaches could unlock significant shared value:

A worker in a white shirt and yellow safety vest is operating a red and black Linde H20 forklift in a warehouse. The forklift is carrying a pallet of goods. The background shows high industrial shelving units filled with various items.

How can we prevent bottlenecks in the supply chain?

A close-up shot of hands typing on a laptop keyboard. The image is overlaid with a blue gradient. The focus is on the fingers and the keys of the keyboard.

How can we help companies to better forecast consumer demand?

A group of five people, including three men and two women, are gathered around a tablet computer in a warehouse setting. They are all wearing high-visibility yellow safety vests. One woman is pointing at the tablet, and the others are looking on with interest. The background shows stacks of boxes.

How can we improve the security of food supply and data?

Jessica Adelman

Kroger – Group VP Corporate Affairs



One in eight people struggle with hunger in the US, yet we throw away 40% of the food produced in this country. It's an absurdity, but we have the scale and power to tackle it.

That's why Kroger came up with our Zero Hunger | Zero Waste social impact plan to end hunger in the places we call home and eliminate waste across the company by 2025. We're looking at the manufacturing plants, our logistics and transportation, and then at the stores themselves. We've set a target to achieve zero food waste specifically across the whole company by 2025.

And as part of the effort we're looking at packaging waste too. How can we have 100% replaceable packaging for our brand? And how can we be sure that our ship to home footprint is one that we're proud of, rather than one where we're wasting single-use packaging?

We don't know exactly how we'll do it, but we know we have to. We've put our targets out there and we're going after them. And we see a role for suppliers in helping us find new ways to tackle these challenges.



We've set a target to achieve zero food waste specifically across the whole company by 2025.

Marcel Martin

Coca-Cola Hellenic Bottling – Group Supply Chain Director



Changing consumer preferences are transforming how we operate, and it means we need innovation and flexibility in logistics.

RTM used to stand for 'Route to Market'. More and more people realise that it now stands for 'Route to Me' – as every consumer wants the product to get to them in the most effective way. In the US alone, there were 1.5 billion fewer consumer trips to retail outlets last year than the year before.

Then you add the fact that manufacturing is becoming more and more complex, which leads to larger facilities that can accommodate a greater number of manufacturing capabilities. That's driving a consolidation of manufacturing units, which means you need additional transportation.

Everyone is talking about 'super logistics', but at the end of the day it's about ensuring you don't have idle capacity and that your transportation overall is optimised. You can do this only with data. Brambles has a world of data, so the opportunity is using that to help us make different decisions, and to help us to collaborate with other industry players.



Manufacturing is becoming more and more complex, which leads to larger facilities that can accommodate a greater number of manufacturing capabilities.



▲ A Coca-Cola truck making a delivery in Vienna



Working together on the three shared challenge areas

MOVING FORWARD

Collaborating with leading manufacturers and retailers will find new ways to build smarter and more sustainable supply chains

Tackling these shared challenges will require a different operating model which is based on sharing, collaboration, and circular economy approaches.

To take this forward, we'll connect leading manufacturers and retailers to find new ways to collaborate and build smarter and more sustainable supply chains – creating more value and using fewer resources, together.

WHY COLLABORATE?

Exchange perspectives

Participating companies will exchange perspectives on the challenge and concrete examples of best practice, based on Brambles data and insights from a range of sectors across the system.

WHY COLLABORATE?

Brambles global solutions

We'll then bring the best of Brambles global solutions and supply chain expertise to bear, building on what we know today to develop the next wave of practical approaches for the future – through one on one partnerships, multi-party coalitions, or open innovation events.

How we'll collaborate on Zero Waste World



Focused ideation session

We'll kick off with a focused ideation session, which will bring together our solutions experts with the supply chain, logistics, and sustainability leaders in your business. The aim of the session will be to explore your challenges and understand your needs. We will then identify shared opportunities to take on the breakthrough challenge areas identified above, and any additional routes to creating smarter and more sustainable supply chains.

Practical collaboration

We'll then move quickly to practical collaboration – saving you time, money, and natural resources through one-on-one partnerships, multi-party coalition, or open innovation sessions.



To collaborate on building a smarter and more sustainable supply chain, please contact us



+1 (800) 243 7872

+44 (0) 7989 421 473



zerowasteworld@brambles.com

