



The world in

2025

Three scenarios for
the future of the
packaging industry



Planning for the futures

At the moment, some of our most basic assumptions about the world are being questioned. Globalisation is coming under fire. In politics and economics, rulebooks are being torn up. Today, it seems harder than ever to look into the future.

That's exactly why it's so important that we try. While we can't forecast every innovation and disruption before they happen, it's vital that we understand the powerful forces set to shape our industry in the next few years.

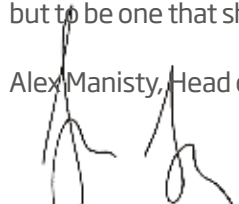
Because there's no point in creating long-term strategies that are designed to work today, with no thought for the way the world could be tomorrow.

In the next few pages, you'll read about some of the big trends we see forging the future over the next decade. Then you'll see some speculations on possible outcomes - three different versions of the world in 2025.

These aren't predictions. They're scenarios; each one is plausible, but radically different to today's business environment. The world's smartest organisations use scenarios like this to stress-test their strategies.

They are the result of interviews and workshops carried out by a cross-section of staff at DS Smith, as well as some external experts. We'd like you to be a part of them as well. If they provoke you to ask new questions, or inspire ideas of your own, please get in touch. Because we intend to be one of the companies that will not only thrive in that future, but to be one that shapes it too.

Alex Manisty, Head of Strategy



PS Please let us know your thoughts!
Send us an email to
scenarios@dssmith.com

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Sources and further reading

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We have also made the scenarios into three films for a richer experience. You can access them through the links below.

www.dssmith.com/ecommerce-scenario

www.dssmith.com/consumerexperience-scenario

www.dssmith.com/recycling-scenario



Global trends

These are the massive underlying forces that will evolve the worlds of consumers, retailers and manufacturers. We can't predict exactly how they might do that - but understanding them helps us make better strategic plans.





Retail & e-retail

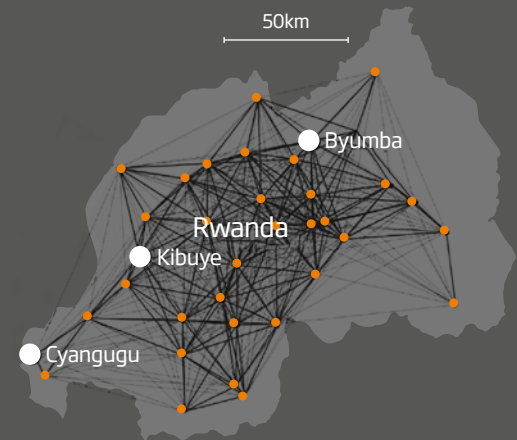
E-retail is reshaping the high street. It's also reshaping our home lives, traffic on our roads and the job market. Retailers in the US and Europe are developing strategies to compete effectively with Amazon. In the developing world, e-retail may leapfrog conventional stores altogether. There are precedents: most developing world internet users have never owned a desktop or laptop - they began with smartphones.

Cargo droneports

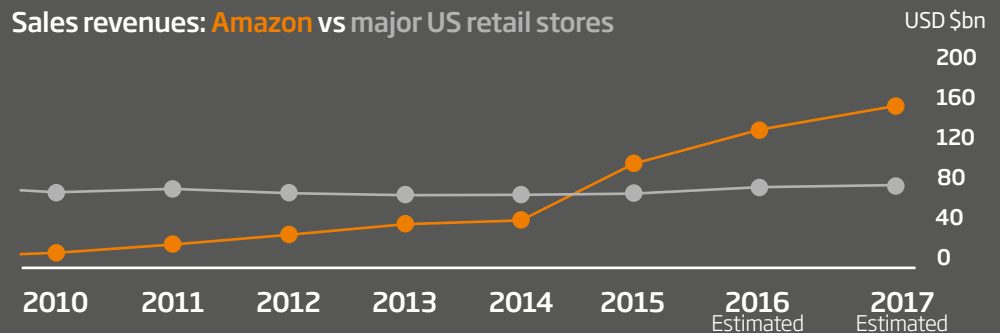
To overcome the restrictions of transport infrastructure, British architects are working on a large-scale project in Rwanda to build three droneports to deliver medical supplies and electrical parts. The map shows how many Rwandans the new droneports could reach.

Amazon is experimenting with drones as a delivery device. How long before we have a retailer dropping in through our roof?

- Droneports
- Hospitals



Sales revenues: Amazon vs major US retail stores

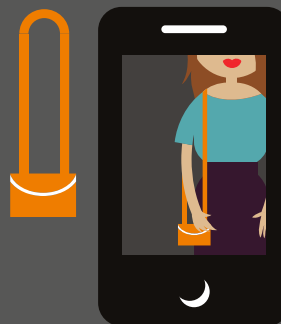


Source: Bloomberg Finance LP via Business Insider



Brands

Brands were once a guarantee of quality in the era of mass production. Now we have instant access to consumer reviews, product quality is counting for more and advertising for less. Barriers to entry are falling in many categories, heralding a surge in 'Microbrands' from one-man distilleries to niche automotive players. As global manufacturers struggle to maintain their margins, supermarkets' own brands are also applying pressure.



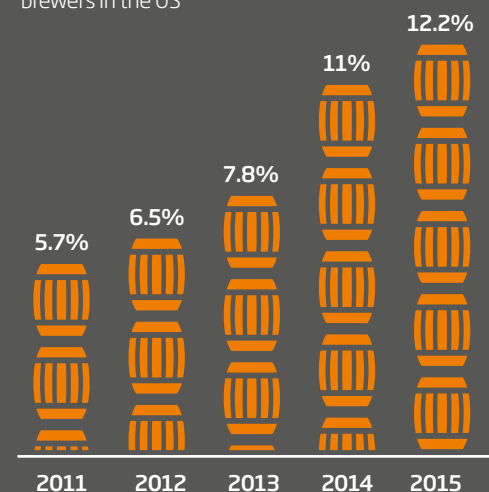
64%

of women who shop for apparel on their smartphone agree that **seeing images of products in context** positively influences their purchase decision.

Source: Google/Ipsos Connect

The rise of craft brewing

Volume share for craft brewers in the US

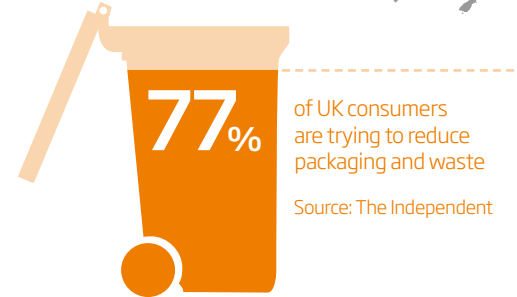
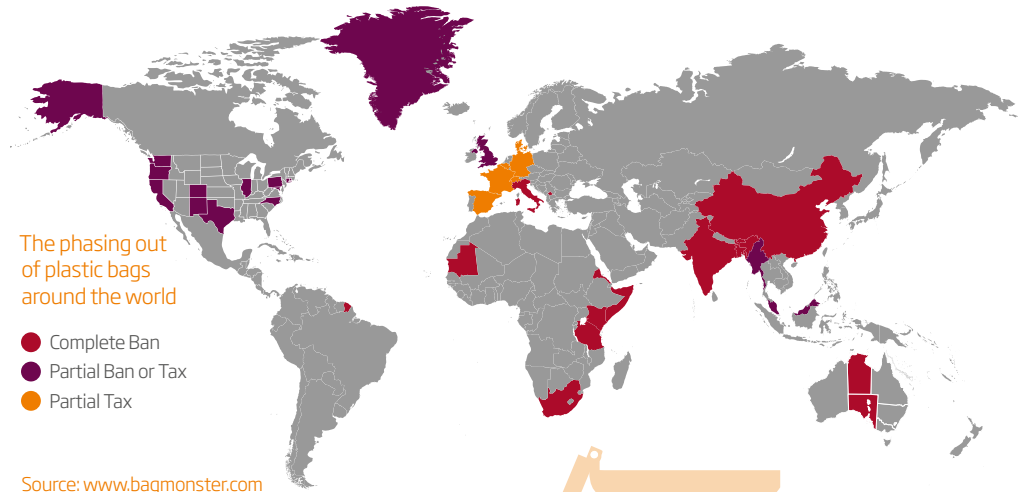


Source: Brewers Association (US)



Social pressure for zero packaging

Across the world, plastic bags are being banned or being charged for. Consumer campaigns are pressuring retailers into reducing packaging. The developing world, with less efficient waste disposal infrastructure, may lead the way in this. Meanwhile e-commerce is making transit packaging more visible in people's homes and sensitising them to concepts such as voids in boxes.

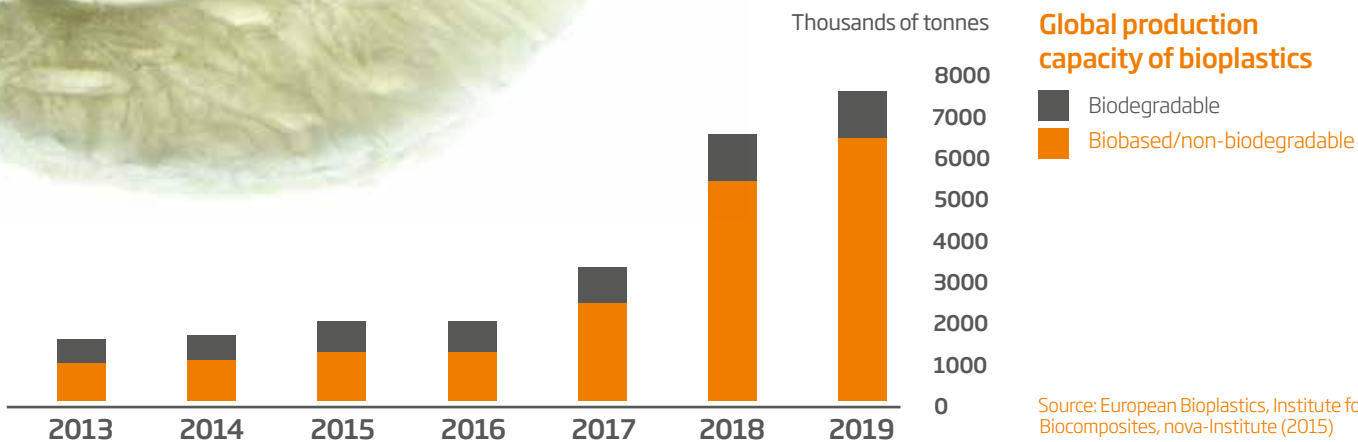


Packaging made from agar which is derived from seaweed.



Alternative materials

What will tomorrow's packaging be made from? Starch-based thermoplastics made from vegetable waste? Paper fibres made from seaweed that grows up to twelve centimetres a day? Today, these are exotic materials. But so was carbon fibre once – and now large chunks of airliners are made from that. Conversely, we may face new competitors for forestry resources, as high-tech companies look to use more sustainable materials in their products.

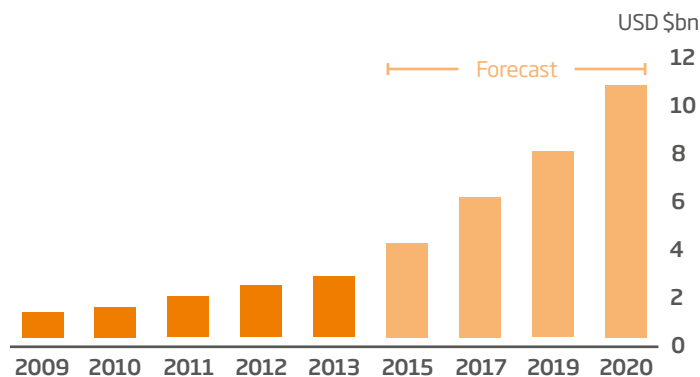




Evolution of customer base

Manufacturing is changing. Dark factories, run by robots, are on the rise. High technology companies are looking at 'reshoring' - bringing production back from Asia, opening highly automated plants near their consumers. Additive manufacturing (3D printing) and mass customisation are already transforming the automotive and aerospace industries. Now FMCG companies are adopting them. Big brands are wondering if they need to make things any more, or whether they should become services. If Renault can outsource its car seats, why can't an FMCG do the same with detergent or chocolate?

The global growth of additive manufacturing



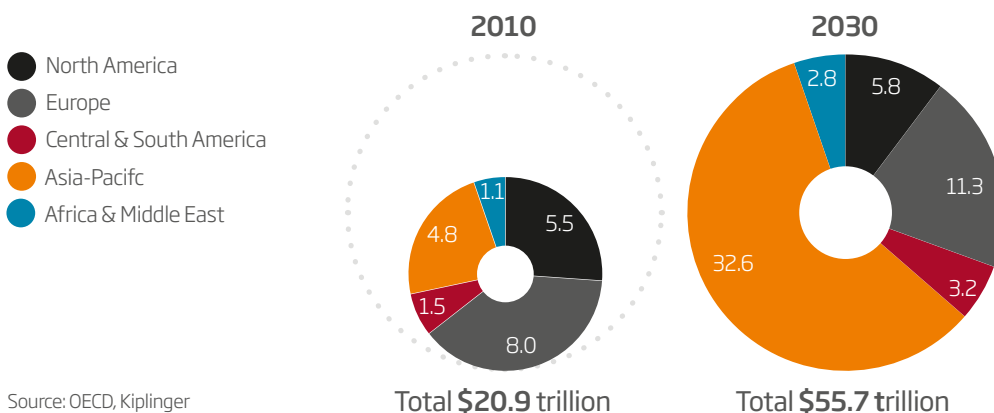
Source: Morgan Stanley Research via Forbes.com



Mass customisation is becoming more common as manufacturing methods evolve

Global growth of the middle class

Middle class spending Worldwide (trillions of USD \$)



Source: OECD, Kiplinger



Demographics

The middle class is growing quickly in the developing world, and is likely to grow even more quickly. Retailers and manufacturers are racing to create the products and services that these new consumers will demand.

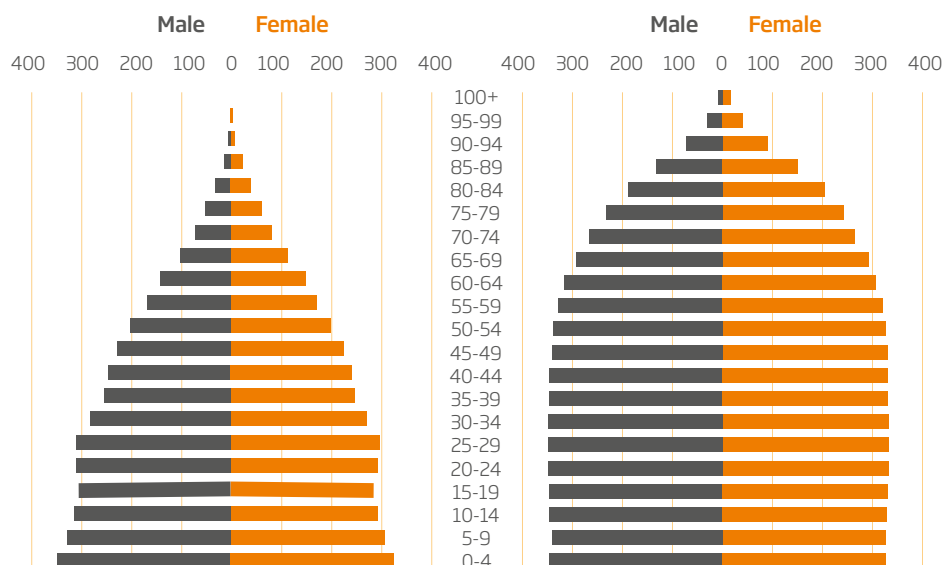
In the developed world homes are getting more expensive, people are living longer and having fewer children, later in life. Multigenerational homes are becoming the norm in Europe and North America, thanks to couples looking after aging parents and adult children living at home as they cannot afford to move out. Care homes are also on the rise to help elderly people deal with the physical and mental challenges of old age.

Global megabrands are having to meet the needs of ageing consumers in some geographies, and newly prosperous young people in another. Will they manage both?

Global population by age and sex

2015

2100 Forecast

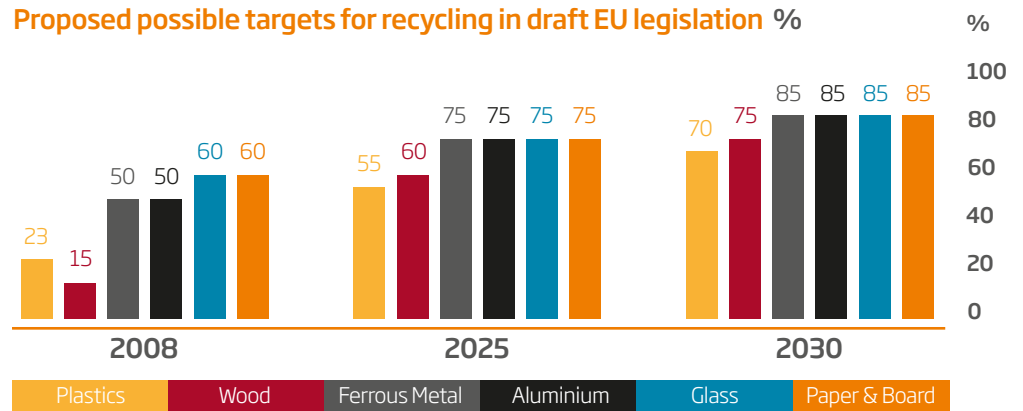


Source: The Economist



Legislation

Currently a debate is raging about the best ways to combine reduction, re-use, recycling and recovery of packaging. The European Commission is currently drafting a major piece of legislation to describe a potential "circular economy". Should waste be recycled, recovered or burned? Who should pay to make our economy circular? These will be hot political issues in years to come.



"The share of municipal waste recycled or composted in the EU has steadily increased over the time period, from 17% in 1995 to 44% in 2014."

Source: EuroStat



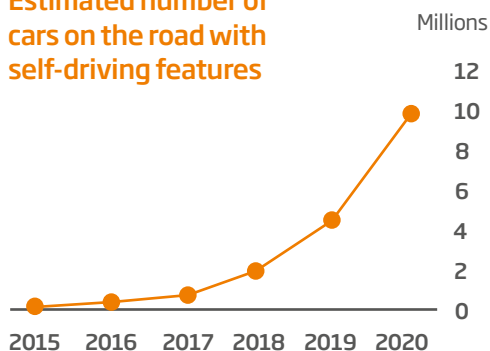
Google's Self-Driving car



Technology

Drones. The Internet of Things. Smart products that become services, and services that allow us to share durable items. Artificial Intelligence that knows what we want before we know it ourselves. Tech giants like Google and Amazon pouring cash into smart homes and autonomous vehicles. One thing is for certain: technology is transforming our world, and some of the technologies that will do that during the next decade are still being invented.

Estimated number of cars on the road with self-driving features



Pressing an Amazon Dash button allows you to order well known brands instantly



Three Scenarios

Scenarios are not predictions. They're plausible versions of the future, extrapolated from trends we can see today.

Scenario 1

Caring convenience

Scenario 2

Everything is an experience

Scenario 3

Asian new deal

Scenario 1

Caring convenience

In 2020, e-retail finally overtakes bricks and mortar as the way the world prefers to shop. Our shopping streets and malls become pickup points for our orders rather than destinations for browsing. Consumers' unease about excess packaging starts a backlash against e-retailers, forcing them to transform their supply chains radically.

2016: How it begins

In 2016, e-retail makes up only about 10% of purchases in Europe and America. On the one hand, Amazon seems to be the undisputed heavyweight champion. On the other hand, it only took one dollar in every hundred that Americans spent shopping in 2015.

The old-style supermarkets and department stores are fighting back hard, especially in the US. Shops are becoming delivery hubs, allowing same-day orders to be fulfilled, and returns to be managed easily. Click and collect is also growing. E-retailers may have the edge on price, but they can't compete with this level of convenience.

2017: Uber becomes a delivery service

In this scenario, Uber kick-starts a major change. It begins accepting deliveries as well as passengers, and the price of last-mile fulfilment drops as radically as taxi fares have. Instead of sharing rides with strangers, we become familiar with sharing rides with groceries, Lego sets and clothing. We even get money off our taxi fare if we'll take packages to neighbours' front doors.

With the processing power of Google behind it, Uber optimises over half a billion deliveries in its first year, a figure set to increase exponentially. This allows smaller players to compete with Amazon on price and beat them on delivery.

2018: Now anybody can be an e-retail powerhouse

The US retail giant Macy's leads the way. It transforms its stores into delivery hubs that are far more local than the giant out-of-town warehouses built to fulfil online orders. That frees up floor space for lifestyle and fashion experiences which consumers love: Macy's Chicago flagship becomes the Number One Tripadvisor experience in the downtown area. By January 2019, Macy's online clothing business is twice the size of Amazon's.

Where Macy's leads, others follow. Marks and Spencer's smallest stores become pickup points and changing rooms where consumers collect their orders, try them on and return any that don't fit. You can order three outfits in the morning, choose one at lunchtime, have it altered in the afternoon and wear it the same evening.

2018: Reviews become bigger than brands

By 2018, it's possible for consumers to read reviews of everything they buy. They no longer need to put blind faith in brands; it turns out we all trust complete strangers more than we do large corporations. The most important symbol on any product is no longer the logo, but the number of stars on the retailer's page. So brands start working to earn those stars.

Spend on advertising and promotions plummets as manufacturers invest in making things people actually want rather than making people want things.



2019: Packaging: it's all about the inside, not the outside

By 2019, half our shopping is delivered to the doorstep. This behaviour begins to transform retail spaces, and the packaging of the goods. Once, marketers obsessed about the 'First moment of truth,' when a consumer saw a package on a shelf. Now the first moment of truth happens online, the second moment is when the goods arrive in a consumer's home. So the focus is all on the transit packaging that ensures that everything from Carrefour and Zara arrives pristine and beautiful.

The leading brands invest heavily in this area, creating masterpieces of engineering. They're delightful to open, mass-customised and the goods are packed to minimise space and prevent damage. However, not everybody is delighted.



2020: The cardboard backlash

In 2020, the average household receives more packaging every two weeks than a single dustbin can hold. Discarded corrugated cardboard starts to overflow into the suburban streets of Europe, Asia and the Americas.

Local authorities do their best, but can't cope with the surge in materials for recycling. Scandals begin to surface: some councils are dumping recyclable materials into landfill and falsifying the records to conform to regulations. Local governments start fining companies for overpackaging, triggering lawsuits.

Logistics and waste management costs start to rise. The e-retailers, working on razor-thin margins, have to pass those costs on to consumers. Suddenly e-commerce doesn't seem like the miraculous bargain it once was.

Environmental groups start to protest. Consumer groups join them. Enough, they chant, is enough. The Zero Packaging movement takes to the streets.

The EU takes action. They set limits for the maximum weight of packaging. Materials have deposits put on them. In late 2020 India bans single portion packs and much of the rest of the developing world follows suit.

Success story: Businesses discover the power of less

With so much concern from consumers, packaging companies realise that it's time for radical solutions, not small improvements.

By 2020, consumers demand two very different things from two very different kinds of packaging. The first is the one that arrives at our houses. It's plain and durable, guaranteeing that our purchases arrive in perfect shape, and can be returned if the size or colour is wrong. It also prevents waste as we use products. Today, liquids like detergents are made in hyperconcentrated forms, making every drop precious. So packaging has to dispense them extremely accurately.

The second kind of packaging lives in shops, where theatre and storytelling has become central to everything, and where the pack is there simply to encourage consumers to fall in love with the product. A whole new age of creativity begins as brands and their packaging designers aim to seduce consumers.

Ten years ago, we thought that e-commerce would destroy the centres of our towns. Who could have predicted that it would give them a new lease of life?



Scenario 2

Everything is an experience

By 2025 the role of bricks and mortar retail changes out of all recognition. Brand-ed experiences take over our shopping areas and malls, becoming exciting and theatrical social events. Global brands face stiff competition from small startups that are more meaningful to consumers. Every brand has to do more than tell a story - it has to be able to prove that the stories it tells are true.

2016: How it begins

The barriers to entry in many FMCG categories are falling. OEM factories are increasingly able to produce small runs of products; consumers have a growing appetite for small brands with an interesting story or a charismatic founder. Distribution can be handled online; viral marketing doesn't need big media spend.

Microbrands are already threatening global players in certain aisles of the supermarket. Craft beer now accounts for 21% of the US retail market. The US artisan chocolate market is currently worth \$100m per annum, and is estimated to be growing at over 8% a year. Packaging is critical for these small brands. In many instances, it's the only publicity they get.

2018: Microbrands begin to overtake global brands' market share

In this scenario, by 2019 microbreweries are selling more beer than all the big players put together. Cheese and chocolate are set to follow, with local artisan brands becoming firm favourites. Consumers become more educated about provenance, and they want it to be as authentic for a bottle of shampoo as it is for a bottle of wine. This means that sources of ingredients have to be verifiable.

Brands that claim to be local have to prove it. Scandals emerge over chocolate manufacturers that claim to be 'bean to bar' but actually buy it pre-made from third parties.

Throughout the supply chain, packaging becomes smart and traceable; anybody who wishes to check where the beans in their bar came from can just scan the wrapper.

2019: The sharing economy transforms the consumer durables market

Consumers start buying fewer durable goods and renting more. Apps make it convenient to rent goods by the hour or day. A generation who've grown up with AirBnB and Zipcar take naturally to the idea that they can rent a tool, or can monetise something they own like a power hose or tent.

Big brands get in on the act, turning their products into services: in 2020, Bosch rents more power tools than it sells. If you need a hole in your wall, you can just order a drill. For a small price, it will come with a DIY expert. As products were loaned and re-loaned, the packaging becomes more important. It must ensure everything arrives and is returned in perfect condition, day after day.





2020: P&G CEO announces it is a lifestyle services company

Big manufacturers fight back against the small brands. They customise products on a colossal scale. Levi's stores stop selling clothing. Instead, they became places where customers are measured for clothing that will then be automatically tailored and delivered. Levi's aims to be custom-tailoring every pair of jeans sold in the US by 2025.

Many global brands aim to add services to their products. Reacting to the astonishing success of Unilever's Dollar Shave Club, P&G makes its razors available only by subscription. It also opens 300 grooming academies across the US to teach men how to look their best, and online concierge services spring up for every segment of the population.



2021: Instore spend tops adspend

This is the first year that Unilever spends more on marketing in stores than it does on television and online advertising put together. Supermarkets and shopping malls became theatres for brands. Global giants take on the small upstarts with everything they have.

Word of mouth becomes the critical way to sell; people trust recommendations from friends or even strangers far more than a TV commercial. As advertising stops working, ad agencies evolve. The smartest talent no longer creates 30 second TV spots. Now it's employed creating in-store theatre that gives consumers unique experiences.

Shopping gets more social. As shops become more entertaining, consumers flock there, not to buy, but to enjoy experiences together. Retailers have responded with crèches, games, live entertainment and cafes.

In the past, packaging told us about the features of a product and television made it glamorous. Now packaging has to do the whole job; it's part of the theatre, part of the storytelling of brands. The materials became part of that story: where they were sourced, how they could be recycled, reused or upcycled.



2022: The supermarket is the new kitchen

By 2021, more food is being delivered than is being cooked at home. As restaurants gain access to fast, low-cost supply chains, they start to provide more meals than the supermarkets.

The big players start kitchens of their own: Carrefour and Sainsbury's hire star chefs to bring original and nutritious cooking into every home. Innovations in packaging ensure that it arrives as hot and beautifully presented as it would in a smart brasserie.

Success story: Packaging is the new showbusiness

As everything has become an experience, packaging companies have added showmanship to their skills. Packaging tells stories through its materials, its traceability, engaging copy and graphics, even interactive light shows. Connected to the Internet of Things, it engages with the shopper long after she's left the store and cements relationships between brands and consumers. The smartest packaging companies know they have to deliver more than a product: they have to deliver a delightful experience. Every unboxing is a potentially shareable moment. We're all in showbusiness now.



Scenario 3

Asian new deal

China spends much of the next decade responding to the effects of pollution and global warming. As a result, by 2025 it becomes the greenest country on earth, with the lowest CO2 emissions per capita. It achieves this with a combination of data tools and legislation. To do business with it, the rest of the world is following its example.

2016: How it begins

In the winter of 2013, Beijing residents encountered a choking smog that caused a public outcry. This caused the Chinese government to set up a national air-reporting system that now has over a thousand monitoring stations. These have revealed that around 83% of Chinese people are exposed to air that the US Environmental Protection Agency would describe as dangerous. In 2015 the Prime Minister declared 'war' on air pollution. Officials in the most affected provinces have been closing the worst offenders. Central government is punishing officials who fail to act. 18,000 factories have been closed down in Hebei alone.

2017: The people's sustainable revolution

This scenario begins when China's problems come to a head in 2017. Pollution rises to deadly levels in three megacities: Baoding, Xingtai and Beijing. Protests erupt across social media and spread into the streets.

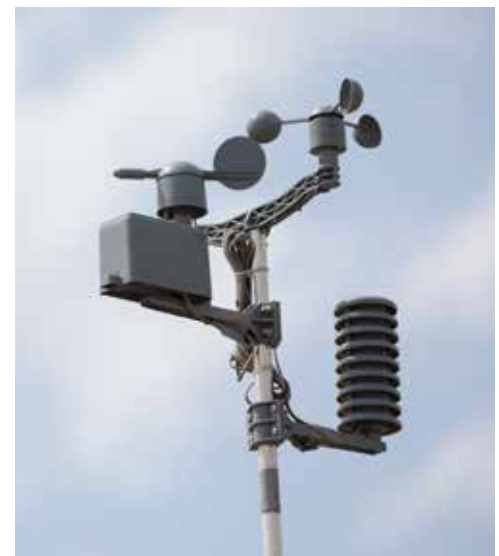
The Chinese government reacts swiftly to the demonstrations. It makes big promises to clean up the air, in what Mr Xi calls, 'A second great revolution.' The government also sees an opportunity: with slowing growth, clean tech could be the next engine that drives the world's second biggest economy. It is already investing twice as much in cleantech as the entire EU - now it really steps up the pace, embarking on the biggest data gathering programme the world has ever seen.

It's enabled by cheap sensors and cloud-based computing, combined with strict enforcement policies. Every tonne of CO2 that an individual or organisation produces is measured. There are no exceptions.

2018: The great carbon tax begins

Once emissions are measured, the State Council introduces legislation to tax it. Mr Xi brings in a European-style cap and trade system on companies and individuals across the country, causing many to go out of business. However, more forward-thinking organisations have been reducing their emissions substantially for some time.

Every transaction is logged. Every exhaust on every truck, every electricity outlet, every nappy is taxed. Even the giant state-owned organisations, often protected by their close ties to government, are placed under scrutiny. CEOs who fail to adapt are removed and disgraced.





2020: Let a million forests bloom

The data scientists come to some surprising conclusions. They decide that recycling is less efficient in China than it is in Europe or America. Recycling needs infrastructure, which is expensive. Also, most of the materials the Chinese recycled are actually being shipped from the West. It is a trade with a high carbon footprint, but more importantly it makes China dependent on Europe and America for critical resources.

The Chinese announce that they will recycle their own used packaging, but won't buy our fibre any more. Instead, they'll grow their own.

Hundreds of millions of trees spring up across Asia – genetically modified for fast growth and carbon absorption, using China's huge DNA database and advanced expertise in genetic science. Farmers who once grew cash crops like coffee and cocoa become foresters instead. And while the trees are growing, China does deals with Nordic and South American countries to source forest fibre in return for manufactured goods.

Other developing countries watch China closely, and begin to re-think their policies. How much is recycling actually saving them? Is it worth importing other countries' waste? Indonesia and Malaysia begin replanting palm oil plantations with fast-growing trees. The price of recyclable fibre crashes.



2021: Western brands in crisis in China

Western brands are having a tough time in China. Some resist the Chinese government's requests to have sensors installed in their factories. Others find their margins eroded by high carbon taxes. But many adapt. For them, the Chinese market is too big to ignore. Those that fail to conform are fined or banned. Most of those who remain bring all their production on-shore to mainland China and India.

Where China leads, the world follows. The recycling model is too firmly established in the West to be abandoned, but companies and governments realise that the developing world has different ideas about what is 'sustainable'.

This means new targets, dramatic improvements in the way that materials are recovered and re-used, and rules to make packaging part of a low carbon recycling solution. And the smartest brands that want to do business in China set up new joint ventures with local partners to share the best learnings from both models.



Clean megacity pilot

Manufacturers aren't the only culprit, of course. Delhi's citizens are choked with exhaust fumes from the cars and trucks that jam its streets. India decides on radical measures. All deliveries are to be performed at night, using electric driverless goods vehicles.

These consolidate all logistics across the city: If you want to deliver a sofa or a letter you have to use the government vehicles. By 2020 India's TATA is the biggest electric vehicle producer in the world, and now licenses its technologies to Ford and BMW.

2021: A new packaging standard

The New Delhi government imposes strict size and shape regulations on packages to ensure the most efficient fit inside their trucks. This new Asian Standard is adopted across the world.

After some cross-contamination scares, the trucks are fitted with detectors that call out disease pathogens, toxins like BPA and mineral oils. Companies that allow impurities into their packaging face the wrath of the authorities – and heavy fines.

Waste is also managed by fleets of unmanned vehicles that are able to monitor the sustainability of individual citizens. Those citizens leading recklessly planet-damaging lives are penalised.

2025: Packaging is information technology

Ten years ago, the most powerful computers in the world helped consumers to search, communicate and shop. Today, computers a thousand times more powerful monitor emissions around the world, making us more efficient, stabilising the planet's eco-system but setting off civil liberties protests around the world. Most citizens seem happy to trade some civil liberties in return for cleaner air.

The packaging companies that reacted to this early did so by realising that they were in the information technology business. They now make sensor-friendly packaging and work with governments and NGOs to help create today's standards of materials and sizes. They are rewarded for their transparency with worldwide contracts and have become critical players in the new global circular economy.



Sources and further reading



Retail and e-retail

Market share of Amazon
<http://read.bi/1TnF00q>

Blood being delivered by drones in Africa,
 bypassing the need to build roads
<http://econ.st/29qZY0R>

Foster+Partners wants every town in
 Africa to have a drone port by 2030
<http://bit.ly/1KqKi7P>



Brands

Must-read article on the decline of brands
<http://bit.ly/1o8yT2C>

Consumers look for 'best' products,
 rather than search by brands
<http://bit.ly/2awclKM>

Rise of private label
<http://bit.ly/2cB7STD>



Social pressure for zero packaging

77% of UK consumers are trying to
 reduce packaging and waste
<http://ind.pn/29SQP1X>

Plastic bags phased out globally
<http://www.bagmonster.com/>
<http://bit.ly/1kSm4uJ>



Alternative materials

Global biodegradable packaging
 market \$4.7 billion in 2015 and is
 growing at a CAGR of 17.2%
<http://prn.to/2csaZ2l>

IKEA plans to use mushrooms
 instead of polystyrene
<http://bit.ly/2cRRsGj>



Evolution of our customer base

Coca cola sold 730,000 personalised
 glass bottles in 2014
<http://bit.ly/2d2K004>

Record numbers of manufacturing
 jobs returned to the US in 2015
<http://on.mktw.net/1FCImS8>



Demographics

Hans Rosling debunks myths about population
<http://bit.ly/2deI5lv>

Ford designers use age empathy suit
<http://bit.ly/1owC6pD>

China's middle classes has very
 different attitudes from ours
<http://econ.st/29DAZjZ>



Legislation

Circular economy toolkit for legislators
<http://bit.ly/2d6kaUN>

EU circular Economy strategy
<http://bit.ly/1njgLl6>

How China recycles plastic
<http://bit.ly/2cOef9g>



Technology

Kevin Kelly on 12 inevitable tech
 forces that will shape our future
<http://bit.ly/1V8WeCu>

Welcome to the Drone Age
<http://econ.st/1FwMfkj>

The open AI project: making artificial
 intelligence available to anybody
<http://bit.ly/2cn0iAd>



