



The future of cold chain transportation:

How to find your fleet's hidden power

DISCOVER THE POWER OF BOTH



Navigating the future

The food and drink transportation industry is going through a revolution, influenced by modern consumer needs, new regulatory pressures and innovations in technology. To stay competitive and compliant, food and drink manufacturers need to act now, or risk falling behind.

For those manufacturers wanting to lead the way, the key lies in having full visibility over fleet performance and control over the way telematics data is collected, interpreted and utilised. True success is only achieved when they discover the power of both.

At Masternaut, we've been working with logistics professionals for over 22 years, and we know how challenging it is to navigate the ever-fluctuating world of temperature-controlled transport. That's why we've created this report, to bring you the latest industry trends, technologies and regulations that will help you discover your fleet's advantage.

With actionable insights and expert guidance, you'll discover:

- The factors that are reshaping the future of cold chain transportation.
- How to use data to discover your fleet's hidden power.
- The latest technology trends that really matter to Fleet Managers and Operations Directors.
- How to remain compliant with industry regulations, now and in the future.

Contents

Your new route	4
Market intelligence and planning for change	
Tactics today	8
Powerful data and strategic thinking	
Steer into the future	14
Adopting new technology and connecting your fleet	
Your 2018/19 regulation toolkit	22
Meeting standards and proving credibility	
Food for thought	28
A future with full visibility and control	



SECTION 1

Your new route

Market intelligence and planning for change

Technology isn't the only factor that has transformed the food and drink transportation industry over the last few years. Changing consumer mindsets, mounting ethical and environmental responsibilities and new ways to shop are revolutionising the future of cold chain transportation. Those who are armed with both the knowledge of today's market and who are prepared for changes to come will discover their powerful advantage.



DISCOVER THE POWER OF BOTH

Your new route: Market intelligence and planning for change



1 | Freshly delivered

Shoppers have become more concerned with the quality, safety and healthiness of the food that they buy, and as a result¹, **fresh organic fruit and vegetable sales have grown in the UK by 5.3% over the last year²**. With a spike in fresh produce being delivered in the form of meal-kits (which are expected to generate £7.2bn globally by 2020³) and online grocery deliveries, there is now an even higher importance on the quality and freshness of produce, from how it's shipped to merchants to how it's delivered to customers' homes.



2 | Convenience and connectivity

The rise in popularity for connected devices like Alexa and an increase in flexible delivery options has meant that online shopping has never been so easy for consumers. In fact, nearly half (48%) of Brits do at least some of their grocery shopping online⁵, with shoppers ranking convenience and speed as the most important factors when buying food online⁶.

To meet this demand, many logistics companies have adapted their last mile delivery methods to ensure they can deliver these fresh products reactively and conveniently. Many have implemented new 'Just In Time' (JIT) strategies into their supply chain network to unbundle transportation services and increase cost-effectiveness⁷.



“By 2020, there will be 55 million smart devices in our homes, making that the biggest supermarket chain on the planet.”^[4]



3 | Conscious consumers

In light of recent supermarket scandals, conscious consumers have become mindful of where their produce has come from, how it is transported and the impact it has on the environment. In fact, **65% of consumers consider the traceability of products like meat to be important**⁸.

As a result, there are rising ethical responsibilities placed on food and drink manufacturers to ensure their products meet regulatory and consumer standards. Businesses are using data collection through telematics to create transparency within their supply chains. This holds them accountable for product traceability and builds trust with consumers.



4 | Environmental responsibility

Supermarkets, supply chains and logistics companies are all under pressure from consumers and authorities to reduce waste in transit and create more eco-friendly practices. The future is green, with 60% of under 35s claiming that concern for the environment will be more important to them in the next 5-10 years¹⁰. The temperature-controlled transport industry now faces stricter regulations and responsibilities in the way they transport food and drink, to ensure they reduce their carbon footprint and food waste.

According to WRAP, in the UK, over 2 million tonnes of fresh produce are lost or wasted each year in the supply chain alone.^[9]



5 | Modernised fleets

From electric vehicles to AI-powered telematics, the technology used within the food and drink transportation industry is growing at a dramatic speed. IoT powered data analytics and advanced temperature monitoring are growing in popularity across the entire supply chain, as food and drink manufacturers look for ways to remain compliant and improve efficiency.

With brands like Volvo leading the way in multi-brand truck platooning (discover more later), the future of logistics is technology-driven, energy efficient and adaptable to meet new industry needs.



“THE COLD CHAIN MONITORING MARKET IS EXPECTED TO GROW TO \$6.46 BILLION BY 2023.”¹¹



SECTION 2

Tactics today

Powerful data and strategic thinking

The number of fleet management systems in active use is forecasted to grow to 14.1 million units by 2021^[12].

Used correctly, data collected from telematics devices can help businesses remain compliant during temperature-controlled transportation, as well as optimise fleet management and streamline administrative tasks. These data-driven insights, combined with strategic thinking, can unlock a fleet's future business potential.

DISCOVER THE POWER OF BOTH

“Big Data is more than just an industry buzzword. It’s made next-generation telematics intuitive, intelligent and integral to the cold chain transport industry.”



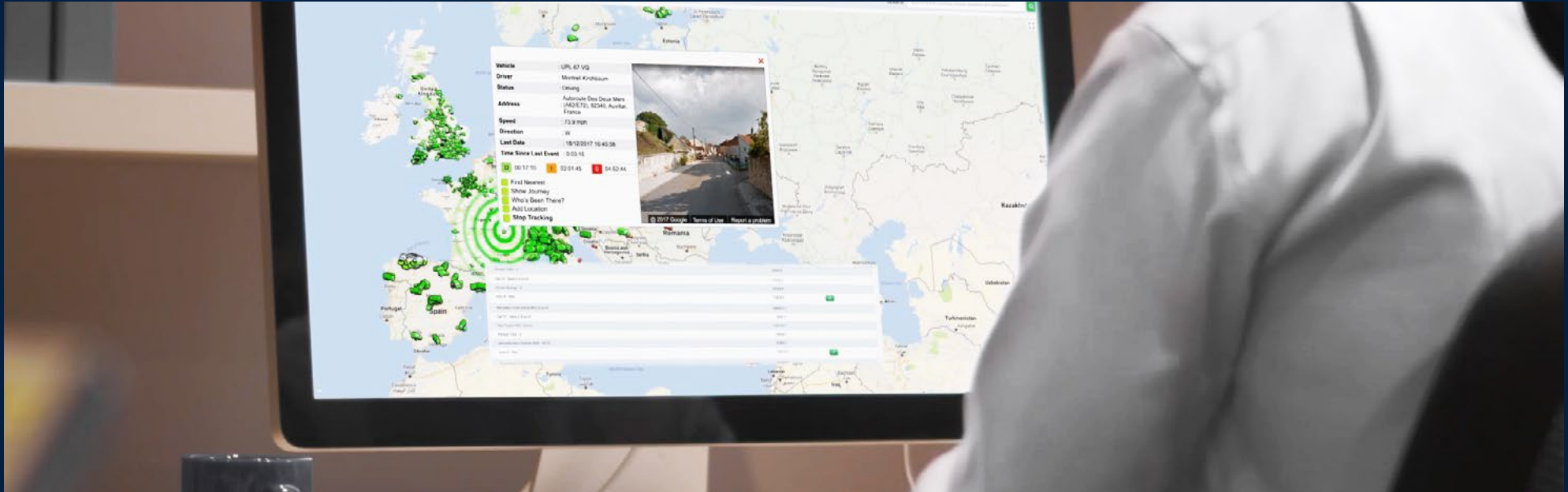
DATA 101: How does next-generation telematics work?

Gone are the days of tracking your fleet with dots on a map, for most. Telematics has provided fleet management with an array of tools that reveal areas for opportunity and improvement. But how does it work, and what will it look like in 2019?

The way telematics systems collect, interpret and present data has changed dramatically over recent years, thanks to advancements in Big Data and Cloud Computing. Unlike traditional data collection systems, which require teams to manually enter information with pen and paper, next-generation telematics use Big Data to collect information through sensors, loggers and digital analysis, all in real time.

Big Data can analyse extremely large data sets (such as every driver’s fuel usage within your fleet at any given time) and reveal patterns, trends and anomalies quickly. For example, it can show how much fuel a single driver used over a year, and whether that is above or below your fleet’s average spend. This becomes incredibly useful for those monitoring multiple fleets, vehicles and drivers in various locations.

Tactics today: Powerful data and strategic thinking



By storing this data in the cloud, (an online platform that users can access at any time), telematics data has become an important tool for Fleet Managers and Operations Directors. This is because many Cloud Computing platforms turn these complex data patterns into clear insights, such as whether a fleet has met

their yearly targets or how often a driver fails to make a delivery on time. These valuable insights can then be used to shape tactics that can improve a fleet's performance today, tomorrow and in the future.

Tactics today: Powerful data and strategic thinking

Your cold chain data dashboard

For the food and drink transportation industry, data collection is crucial for effective cold chain logistics. Currently, one third of the world's food is lost to spoilage each year due to poor or inadequate temperature control techniques in-transit^[13]. Fresh product loss is often a direct consequence of manual temperature monitoring, which is a notoriously risky method of data collection due to human error. This product loss not only poses a threat to our environment and sustainability efforts, but it also has a direct economic cost of over \$1.2trillion^[14].

This, alongside growing pressure from consumer and regulatory groups for the improved quality, freshness and speed by which produce is transported, has made temperature monitoring and fleet efficiency even more important.

“Food loss and waste costs the economy over \$1.2trillion each year.”

But what data should you be collecting from your fleet to ensure you're compliant with these high standards, whilst also protecting your goods and drivers and increasing productivity?

Your data collection dashboard



Container and goods temperature: to remain compliant with perishable goods regulations.



Driver behaviour (e.g. speed, harsh acceleration and braking, excessive idling): to identify areas for improvement and any concerns for driver safety.



Vehicle location: to measure route performance, distance driven, ETAs.



Fuel efficiency: to highlight ways for cost-reduction and to measure environmental impact.

Tactics today: Powerful data and strategic thinking

Understanding data:

Turning insight > action

Data collected from your fleet has the potential to do far more than manage the day-to-day running of your business. Data-driven insights can fuel strategic thinking, identify new areas for opportunity and increase profitability and efficiency for the whole supply chain.

How do you turn data into long-term strategic thinking?

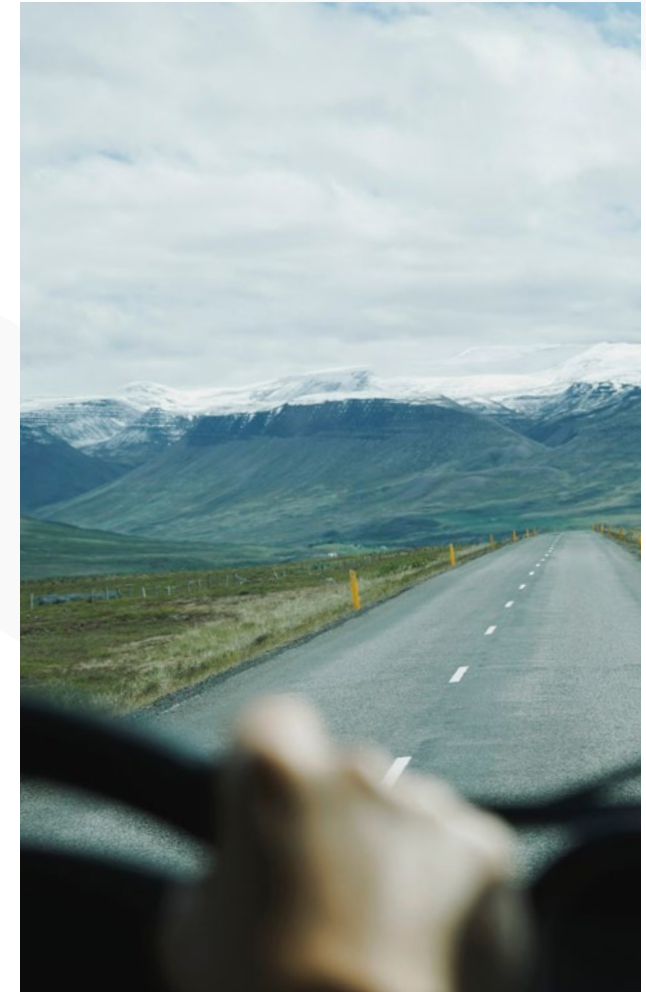
Make big data actionable and meaningful.

The key to success is being able to analyse, interpret and use data to make informed operational decisions and understand the long-term effect it can have on your business.

For example, geo-analytics or data collected around your fleet's location can be collected and used over time to measure the effectiveness of current routes, helping you to plan quicker routes and develop effective last mile strategies. Cross-referencing data with external factors, such as a shift in customer demand, can identify ways to reduce operational costs.

Real-time data collected around the temperature of your goods can achieve short-term goals, such as preventing stock loss. But it can also be used over time, when looking at wider logistics, to create a competitive advantage and identify factors that cause products to spoil, such as driver behaviour or vehicle faults.

“The number of businesses applying big data analytics to business operations and strategies rose by 11 per cent this year.”^[15]



Tactics today: Powerful data and strategic thinking

Trends to action



Today

Review how fleet data is collected and stored within your organisation and identify any gaps in your data which could impact compliance and performance.



Tomorrow

Work together with senior team members across your organisation to find a cold chain telematics provider who can meet your data needs, from collection to analysis.



In the future

Create internal processes that enable teams to regularly review fleet data, and use these insights to identify ways to improve your business' performance.



SECTION 3

Steer into the future

Connected vehicles and the fleet of tomorrow

Connectivity has influenced most of our lives, from the way we use social media to communicate to the way Uber is revolutionising urban transport. The food and drink transportation industry is seeing a similar revolution, from the way telematics data is used to connect drivers to their back office, to the way emerging autonomous fleets are connecting with one another. These new technologies, when used together with telematics data, are a powerful combination that can help leaders connect their fleet and discover their hidden power. The future is around the corner - it's time to steer towards it.

DISCOVER THE POWER OF BOTH

Steer into the future: Connected vehicles and the fleet of tomorrow

The benefits of automated and connected vehicles

Firstly, what's the difference between an automated and a connected vehicle?

Connected vehicles enable vehicles to "talk" to each other, to infrastructures and with other road users through IoT technology.

There are five main categories of connected vehicles, as shown below:



In July 2018, the UK government introduced the Automated and Electric Vehicles Act, a piece of legislation that aims to get driverless cars insured and on the road by 2021.^[16]



V2C

Vehicle to Cloud



V2V

Vehicle to Vehicle



V2I

Vehicle to Infrastructure



V2P

Vehicle to Pedestrian



V2X

Vehicle to Everything

Steer into the future: Connected vehicles and the fleet of tomorrow

Automated vehicles operate with some aspect of safety-critical control functions. They are **designed on a scale** to assist and improve the safety of human driving, as is explained opposite.

“Up to 68% of Fleet Managers would be willing to pay extra for autonomous driving”^[17]

Level 0	The human driver does all of the driving
Level 1	An advanced driver assistance system on the vehicle can assist the human driver with either steering or braking/accelerating
Level 2	An advanced driver assistance system can control both steering and braking/accelerating under some circumstances, whilst the human driver pays full attention and performs all other tasks. ^[18]
Level 3	An automated driving system on the vehicle can perform all aspects of the driving task , but the driver must be ready to take back control at any time.
Level 4	An automated driving system can perform all driving tasks in certain circumstances.
Level 5	An automated driving system on the vehicle can do all the driving in all circumstances.

Steer into the future: Connected vehicles and the fleet of tomorrow

There's good reason for logistics professionals' belief in the power of autonomous and connected vehicles. This technology presents **valuable opportunities** for food and drinks manufacturers transporting their goods.

Autonomous vehicles

can help businesses improve operational efficiency

- **Increased productivity:** Automated vehicles can be used 24 hours a day to support and assist driving tasks, or in the future, replace drivers when they need to take a break.
- **Improve driver and road user safety:** Automation reduces the risk of human error in collisions and accidents.
- **More environmentally friendly:** As automated vehicles are driven more efficiently, there is a reduction in energy and fuel consumption, which helps businesses meet their sustainability goals.

Connected vehicles

can help businesses meet compliance and business targets

- **Better visibility:** Thanks to IoT and Cloud Computing, connected vehicles can monitor their unit temperature in real time and share this data with the entire supply chain.
- **Effective last mile routes:** Businesses can use vehicle-generated traffic data to inform the driver of safety, mobility, or environment-related conditions on their route^[18]; helping drivers to make better decisions with last mile deliveries of fresh produce.
- **Improved communication:** Throughout the supply chain, from HQ to the warehouse to the end-consumer, connected vehicles provide drivers with a channel of communication through data sharing and online communication. This can be used to quickly prevent or resolve issues such as temperature changes within a trailer.



Despite their initial costs, connected and automated vehicles offer food and drink manufacturers individual benefits to help them **meet compliance measures** and **optimise operations**. Those who invest in the power of both will discover **untapped fleet potential** and **future cost savings**.



“GLOBAL [V2V] CONNECTIONS
IN FLEET MANAGEMENT
APPLICATIONS WILL RISE TO
ALMOST 60 MILLION IN 2023.”^[19]

Real-life use of automated vehicles

Although we are a while away from fully automated vehicles filling the roads, we are one step closer to seeing their real-world benefits within the food and drink transportation industry. An example of this is Ocado's partnership with Oxbotica in Greenwich, London, where the trial of their unmanned delivery vehicles, named CargoPod, is taking place. Each of the zero-emission pods is able to deliver 8 boxes of groceries, which were loaded onto the vehicle at a local hub station.^[20] Despite still being trialled, Ocado and Oxbotica hope the system will be ready for commercial launch by 2019, leading the way for sustainable last mile deliveries.^[21]

Steer into the future: Connected vehicles and the fleet of tomorrow

The future of connected fleets

Industry leaders are taking the concepts of connected vehicles and automated vehicles even further with truck platooning.

What is truck platooning?

Truck platooning describes the way two trucks can drive less than 1 second apart, thanks to automated driving technology, also referred to as Cooperative Adaptive Cruise Control (CACC) technology [23]. By allowing sensors on one truck to communicate with the other (to implement methods like highway pilot, lane-assist and assisted braking), both trucks can operate as a single unit; improving fuel efficiency, traffic flow and travel time.



“By 2023, it should be possible to drive across Europe on motorways (thus crossing national borders) with multi-brand platoons.” [22]

Steer into the future: Connected vehicles and the fleet of tomorrow

Real-life use of truck platooning

While this may seem like a distant reality, the Department for Transport and Highways England and TRL have green-lit the first real-world operational trial of platooning vehicles on UK roads, which is expected to take place later this year ^[24]. Brands like Volvo, DAF and Daimler have created the ENSEMBLE project which is testing truck platooning on motorways in Europe over the next 3 years.

The benefits of truck platooning are similar to those of automated vehicles: lower operational costs, better safety for drivers and road users and fewer emissions. One of the main advantages of truck platooning for transportation industries is the large-scale operational benefits it has to offer for supply chain networks and Operations Directors. According to PwC, platooning could increase profitability by reducing overall fuel costs by 11% and vehicle maintenance by 5% ^[25].

“For cold chain transportation industries, the mass adoption of truck platooning could happen sooner than you think.”



Steer into the future: Connected vehicles and the fleet of tomorrow

Trends to action



Today

Look at ways in which connected vehicle technology can enhance your fleet's performance, such as the benefits for drivers to have real-time visibility over temperature and immediate notification of route diversions.



Tomorrow

Invest in vehicle automation tools that can be installed into vehicles, such as parking sensors or lane departure warning systems, to ensure your driver is supported by advanced safety features.



In the future

Work with partners within your supply chain networks to trial truck platooning and encourage adoption of the technology that powers platooning.



SECTION 4

Your 2018/19 regulation toolkit:

Meeting standards and proving credibility

Navigating the world of compliance in the transportation of food and drinks can be a difficult task, especially against a backdrop of Brexit uncertainty. Despite regulatory ambiguity, there is a costly price for not meeting industry standards, from public safety risks to the financial loss of goods.

Ensuring your business is compliant and proving your credibility have become more important than ever for the safety, competitiveness and future of your business.

In this section, we bring you key regulatory changes and initiatives that will impact the industry over the next 12 months to help you deliver excellence through compliance.

DISCOVER THE POWER OF BOTH

Compliance cheat sheet

-18°C

less than or equal to

The temperature frozen food should be transported and distributed at.

0°C - 5°C

or below

The temperature chilled food should be transported and distributed at.

63°C

or higher

The temperature hot, ready-to-eat food should be transported and distributed at.

30-45 minutes

Drivers must take a 30 minute break if they drive over 5.5hrs, and 45 minutes after 8.5hrs.

10 hours

Drivers must not drive more than 10 hours a day.

45 hours

Drivers must take an unbroken 45 hour rest break at least every fortnight.

Your 2018/19 regulation toolkit: Meeting standards and proving credibility

Transportation and distribution regulation toolkit

Although the temperature that food and drink must be transported at has not changed in UK legislation during 2018, there have been government reviews and updates to transport and food laws. These changes will impact your drivers, suppliers and corporate responsibility.

Food/drink and transport regulations	Regulation updates or proposed changes	What it means for you
The UK Review of Meat Hygiene	Currently under review with new legislative regulations expected to be announced in 2019.	This review wants to identify new measures that can be undertaken by the whole supply chain industry to improve meat hygiene/safety .
Mandatory Tachographs	From June 2019, every new HGV or coach will need to be fitted with a 'smart' digital tachograph .	These new 'smart' tachographs are slightly more advanced than today's tachographs, as they will measure a vehicle's location using GPS and facilitate remote enforcement capabilities .
New Emission Tests	All newly registered cars must undergo the World Harmonised Light Vehicle Test Procedure (WLTP) to ensure they meet fuel consumption and CO2 emission regulations . From September 2019, they'll also have to pass Real Driving Emission (RDE) tests.	This has been introduced to reduce the impact vehicle emissions have on our environment. Until these come into effect, the DVSA have rolled out a new programme to routinely check lorries at roadsides for emissions cheat devices , which if found could result in the vehicle being confiscated and a £300 fine.

Transportation and distribution regulation toolkit continued

Ultra-Low Emission Zones	On 8th April 2019, central London will become the world's first Ultra-Low Emission Zone (ULEZ) . Vehicles will have to meet the latest emissions standards or pay a fee. These ULEZ fees will replace the £ 10-a-day T-Charge that was introduced in October 2017.	Businesses will have to incorporate these costs into their projections for the next 12 months. There are also other areas of the country, including Birmingham, Leeds, Nottingham, Derby and Southampton , that are required to introduce Clear Air Zones by the end of 2018.
Changes To Fines: Driver's Hours	Since 5th March 2018, DVSA traffic examiners are able to issue on-the-spot fines for any driver's hours offences committed in the last 28 days.	These offences include driving without taking mandatory breaks or driving for longer than regulations allow . DVSA will also fine drivers up to £300 if they spend their full weekly rest break inside their vehicle in inconvenient locations such as on the side of a busy road.
Border Crossing	Proposed changes to border controls and processes between the UK and EU are expected in 2019.	Brexit negotiations are currently creating concerns over border controls at points of entry and exit across the UK. New vehicle checks, border processes and customs agreements are yet to be finalised, but are expected to be announced early 2019.[26]

Your 2018/19 regulation toolkit: Meeting standards and proving credibility

Industry initiatives

There have also been a number of voluntary industry initiatives and government schemes, that have been introduced to help businesses meet sustainability goals and improve efficiency.

Initiative	Description	Impact
Courtauld 2025	This voluntary organisation aims to make food and drink production more sustainable , so that the UK can achieve the UN Sustainable Development Goal 12.3 by 2030.	156 businesses are currently collaborating with the initiative, implementing new practices into their supply chains to provide lower impact products , deliver products more efficiently and reduce waste .
Food Waste Reduction Roadmap	90 organisations have signed up to the Food Waste Reduction Roadmap , led by IGD and NGO WRAP, to look at how businesses can reduce food spoilage .	By September 2019, the aim is to have 50% of the UK's largest 250 food businesses measuring, reporting and acting on food waste .
Go Ultra Low	As part of the Government's ' Road to Zero ' strategy, all new conventional petrol and diesel cars will be banned between 2032-2040.	As a result, businesses and individuals will be eligible for grants and tax savings on electric vehicles until 2020 .

Trends to action



Today

Ensure your vehicles are fully equipped with a telematics solution before tachographs become compulsory for new vehicles in June 2019.



Tomorrow

Join voluntary organisations within the food transport industry to identify areas of your business that can be made more environmentally friendly.



In the future

Evaluate the emission efficiency of your vehicles, and consider switching from diesel-fuelled to electric-powered fleets.



SUMMARY

Food for thought:

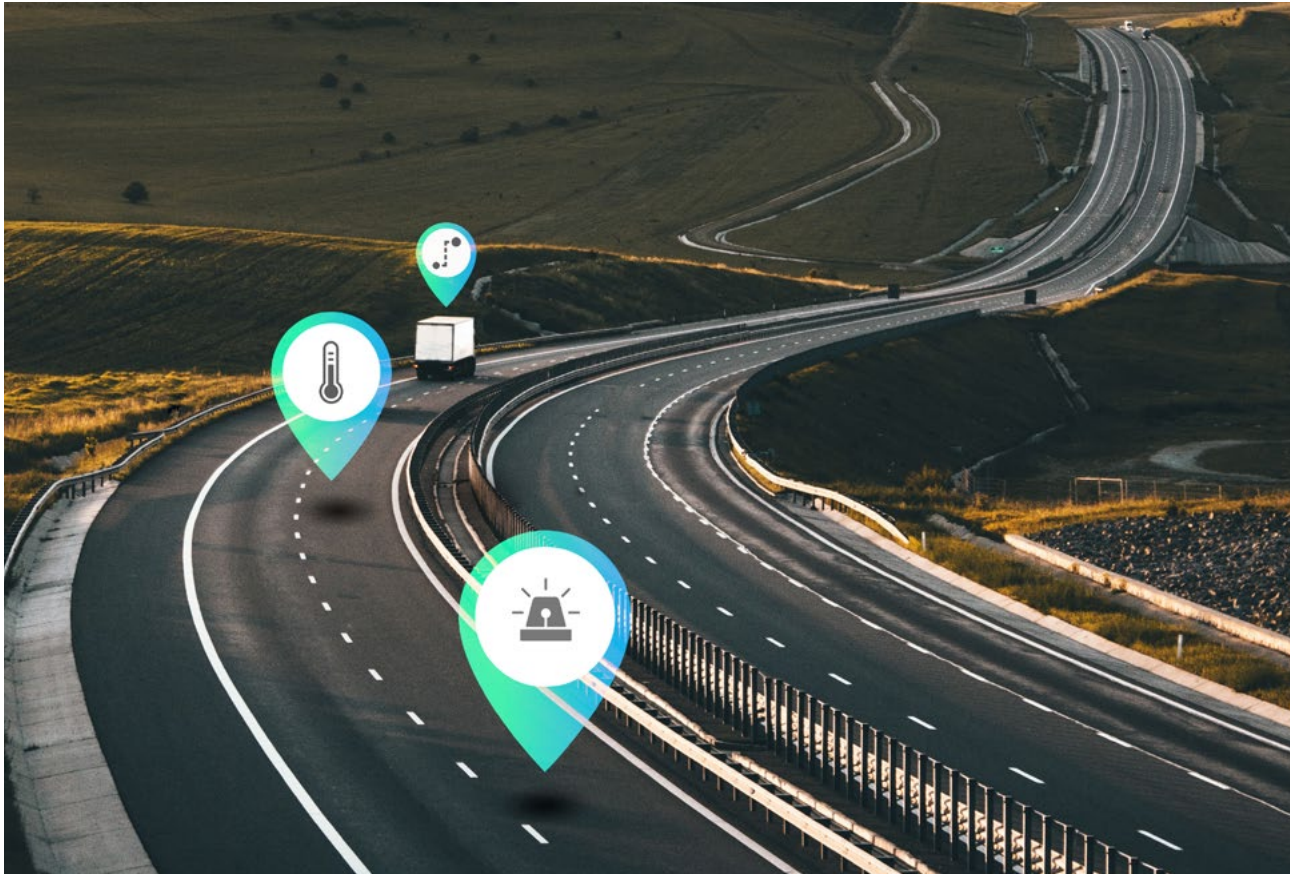
A future with full visibility and control

The cold chain transportation industry is constantly changing to meet the needs of consumers, regulators and suppliers.

But a willingness to change isn't enough for food and drink manufacturers to stay competitive or compliant; true evolution is needed to futureproof your business.

DISCOVER THE POWER OF BOTH

Food for thought: A future with full visibility and control



The time for change is now

The future of food and drink transportation relies on leaders who are willing to push boundaries to create a more sustainable, compliant and efficient logistics industry. To do so, Fleet Managers and Operations Directors must have full visibility and control over their fleet in order to identify their advantage. Cold chain transportation leaders must embrace the strength of telematics data and recognise the valuable insights they offer. Those who discover the power of both will unlock business potential and discover their fleet's hidden power.

Food for thought: A future with full visibility and control

Discover the power of both

With such dramatic changes impacting the cold chain industry, food and drink manufacturers need full visibility of their fleet, operations and temperatures to discover their hidden advantage.

That's why Connect Cold combines the power of real-time telematics with cold chain temperature monitoring in one, without compromise, so that you can optimise operations, ensure compliance and unlock your business potential from one platform.

Discover the power of both today by [clicking here](#).



Food for thought: A future with full visibility and control



About Masternaut

As one of the longest standing vehicle tracking companies in the UK, we've been unlocking potential in fleets for over 22 years and now have over 10,000 customers. Today, we offer a unique combination of technical expertise, simple user experience and consulting services. From telematics devices to expert analysis, every one of our tools helps your business unlock potential. And if you ever need help, our in-house service team is there for you.

[Find the perfect telematics solution to suit your fleet here.](#)

Get in touch

Thank you for taking the time to read our report.

If you have any questions regarding our report or if you would like any more information on Masternaut and our telematics solutions, please get in touch with Jack Morris, our Cold Chain Specialist at jack.morris@masternaut.com, or visit www.masternaut.com/all-solutions/cold-chain-tracking/.

DISCOVER THE POWER OF BOTH



References

- [1] <https://www.talkingretail.com/news/industry-news/uk-shoppers-increasingly-buying-healthy-food-finds-report-03-10-2017/>
- [2] <https://www.theguardian.com/environment/2018/sep/04/supermarket-sales-of-organic-food-and-drink-continue-to-rise>
- [3] <https://www.telegraph.co.uk/business/2018/03/12/meal-kit-maker-gousto-delivers-285m-investment/>
- [4] <https://www.forbes.com/sites/phillempert/2017/12/13/10-food-trends-that-will-shape-2018/#1bafa1414104>
- [5] <http://www.mintel.com/press-centre/retail-press-centre/online-grocery-clicks-in-the-uk>
- [6] <https://www.statista.com/topics/3144/online-grocery-shopping-in-the-united-kingdom/>
- [7] http://ups-scs.com/solutions/white_papers/wp_JIT.pdf
- [8] <https://www.thegrocer.co.uk/buying-and-supplying/sourcing/how-much-do-shoppers-care-about-traceability-of-meat/568758.article>
- [9] <http://www.wrap.org.uk/content/waste-reduction-fresh-produce-sector>
- [10] <https://www.igd.com/Portals/0/Shoppers-of-the-Future.pdf>
- [11] <https://www.prnewswire.com/news-releases/global-cold-chain-monitoring-market-2018-2023-opportunity-in-better-control-of-assets-in-the-warehouse-using-automation-and-cold-storage-technologies-300702088.html>
- [12] <http://www.berginsight.com/ReportPDF/Summary/bi-fmseries2018-sum.pdf>
- [13] <https://www.bcg.com/en-gb/publications/2018/tackling-1.6-billion-ton-food-loss-and-waste-crisis.aspx>
- [14] <https://www.foodlogistics.com/cold-chain/blog/21008563/5-risks-in-cold-chain-management-and-how-to-ensure-it-wont-happen-to-you>
- [15] <https://www.teletracnavman.co.uk/blog/uk/blog%2017/2018%20telematics%20benchmark%20report.pdf>
- [16] <http://www.legislation.gov.uk/ukpga/2018/18/introduction/enacted>
- [17] <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/consumer-and-industrial/cz-fleet-management-in-europe.pdf>
- [18] <https://www.its.dot.gov/v2i/>
- [19] http://iotandtelematics.com/wp-content/uploads/images/Aeris_How_to_achieve_optimised_IoT_deployments_for_transport_and_telematics.pdf
- [20] <https://automotivelogistics.media/opinion/autonomous-vehicles-will-impact-supply-chain>
- [21] <https://www.theguardian.com/business/2017/jun/27/ocados-self-drive-vehicle-makes-deliveries-in-first-uk-trials>
- [22] https://www.acea.be/uploads/publications/Platooning_roadmap.pdf
- [23] http://www.supplychain247.com/paper/truck_platooning_driving_the_future_of_transportation
- [24] <https://trl.co.uk/news/news/government-gives-green-light-first-operational-vehicle-platooning-trial>
- [25] <https://www.strategyand.pwc.com/media/file/The-era-of-digitized-trucking.pdf>
- [26] <https://www.foodmanufacture.co.uk/Article/2017/05/18/Food-and-drinks-logistics-sector-faces-big-challenges>