

Rentokil

The Experts in Pest Control



Assuring the **Future**
of Food Safety in Asia

Food In Focus: A Period of High Demand



The world population will grow **29% by 2050** from 2018⁽¹⁾



Global agricultural production needs to **increase up to 70%**⁽³⁾

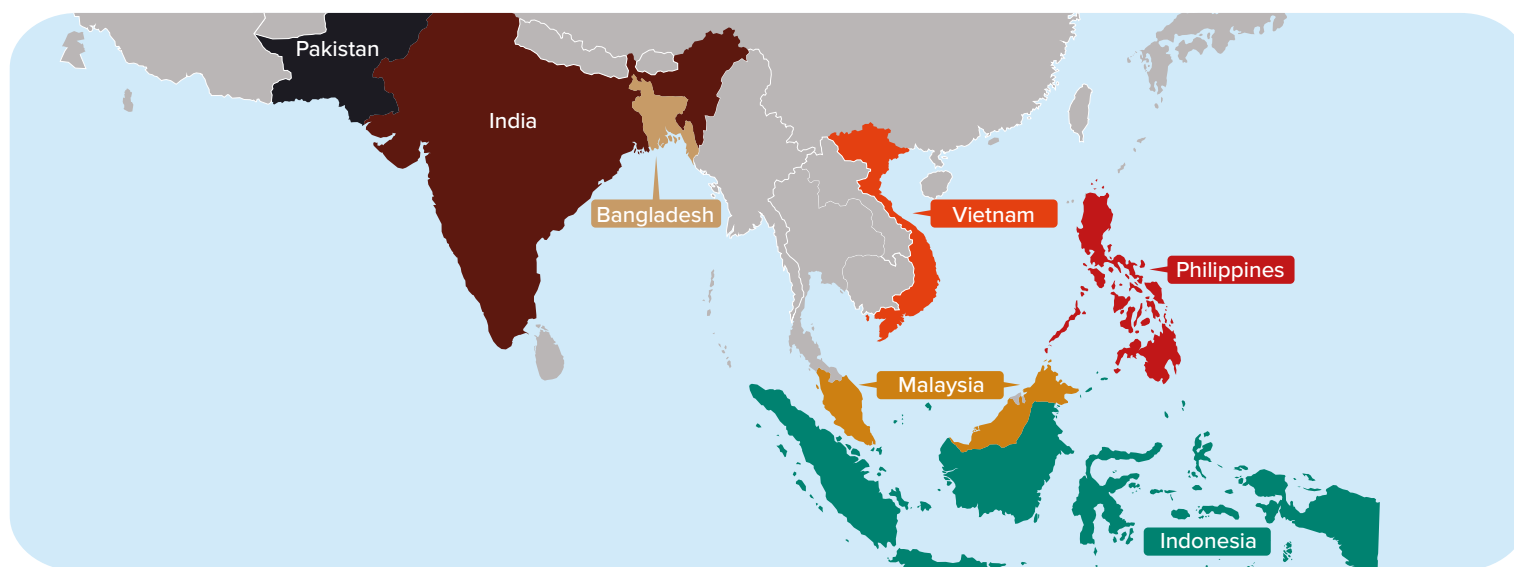


US\$209 billion investment per year are needed to meet food needs in fast growing countries⁽²⁾



...and **raise nearly 100%** in fast growing economies to feed **9.9 billion people!**⁽⁴⁾

7 out the top 10 fastest growing economies are based in Asia⁽⁵⁾



Asia's rising population prefigured its role at the heart of the global economy. Three out of every five people now live in Asia. This demographic shift, linked with but separate from the rise of Asian economies, is driving changes with India, China, Indonesia, Philippines and Pakistan underpinning this growth by representing more than 50% of the world's population by 2050⁽⁵⁾.

The Asia region is a decisive component in the global food chain, specifically Asia's two giant economies – the People's Republic of China and India – are already enormous players within the global food system.

Meanwhile, the booming Halal food market now makes up about 19% of the global food market at an estimated annual growth rate of 20%⁽⁶⁾, sees countries like Indonesia, Malaysia and China seizing the opportunity to be global halal hub.

F&B manufacturing companies from Singapore, Brunei, Taiwan and Thailand, as well as Japan and South Korea are also experiencing increased consumer demand for halal-certified products⁽⁷⁾, spurred by exports and a greater number of Muslim visitors. As food demand grows, the integrity and availability of food supply have also become a concern.

(1) <https://www.prb.org/2018-world-population-data-sheet-with-focus-on-changing-age-structures>

(2) http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050

(3) http://www.fao.org/fileadmin/templates/wsfs/docs/issues_papers/HLEF2050_Global_Agriculture

(4) <https://www.meti.go.jp/english/report/downloadfiles/2008WhitePaper/1-3>

(5) <https://www.pwc.com/au/ghosts/the-world-in-20500.html>

(6) <https://www.focus-economics.com/blog/fastest-growing-economies-in-the-world>

(7) <https://www.reuters.com/brandfeatures/venture-capital/article?id=74528>

The Integrity and Availability of Food Supply are a Concern as Food Demand Grows

Security of food supply is constantly being challenged with globalisation, environmental disaster risks, raw materials and food price volatility, a burgeoning middle class and increased complexity in supply chains and trade across borders.

Food industry players are under immense pressure to deliver safe food while meeting changing consumer tastes and a growing raft of social and economic factors that call for more environmental-friendly processes, transparency, flexibility and speed of output delivery alongside cost reduction and process efficiencies.

This has always been a complex issue in Asia due to insufficient harmonisation of international testing protocols and standards, ever increasing pollution from rapid urbanisation, as well as volatile storage conditions due to climate change and resource scarcity.

Contamination of all sorts, false advertising, fraud and loose e-commerce licensing also present unique productivity challenges and risks of product recalls. Hence, food safety is an equally important element for food trade in the economies of many countries, as reflected in the health, economic and political consequences that arise when the food safety system of a country fails.

The commitment to food safety has slowly been integrated into the operating cultures of many Asian food businesses. This also include the Informal food production and trading, especially in most of the South East Asia region.

One of the areas that the food processing industries are looking at is the implementation of prerequisite programmes and working together with audit bodies in standardising the food safety requirements.

Local councils and regulatory bodies are also working hand-in-hand with audit bodies like AIB, GMP and HACCP to elevate food safety standards with stringent audits and certifications.

Furthermore, companies operating across the region are required to meet multiple country standards whilst remaining economically competitive, hence food safety remain their number one priority.



Pest Challenges in the Food and Beverage Industry

High-profile food adulteration and alarming quality cases are damaging public trust in the food industry and increasing Asian consumers' concern about their food.

With the ubiquity of social media and increasing media and public interest, more food scares are turning into damaging scandals pushing food companies to improve standards.

Yet there is insufficient mindset of zero tolerance towards pest activity and continual proactive measures, rather than solely reactive pest control, must be taken to manage any potential risk and stay ahead of infestations.

A collective effort is vital to ensure a successful end-to-end supply chain pest management.

Pests come in all sizes and species, can enter or be brought into the food processing facility and retail outlet at any point through the supply chain, in the ingredients or packaging. The premises itself will attract pests through food odours, lighting and safe harbourages.

The scale of the impact on business operations will be dependent upon how early an infestation is discovered and dealt with.

Every year there are also dozens of reported cases of businesses suffering the indignity, embarrassment and the costly economic impacts - of pest infestation.

 <p>Malaysia A famous coffee factory was raided and ordered to close down for two weeks after local authorities found a pile of rat droppings at the production area - Channels News Asia</p>	 <p>Hong Kong An incident went viral on social media when a rat from a restaurant ceiling in Hong Kong, which left diners traumatised and caused a public concern regarding the hygiene and pest management of the store - Mirror UK</p>	 <p>Singapore News reported rodent was found in a hot pot soup in a restaurant, falling rodent on a shopper in a mall and presence of running rodents in the outdoor compound - Straits Times Singapore</p>
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The Risk of Steep Business Costs after Pest Infestations



Contamination of raw materials or finished goods



Productivity affected due to deteriorating staff morale and health



Operational disruptions due to audit failure



Damage to electrical equipment and machinery



Revenue loss from product recalls, downturn in sales, business closure



Compensation claims that could go up to millions in payout



Legal prosecution from fines, imprisonment to even death penalty



Social media crisis affects consumer confidence, brand and reputation

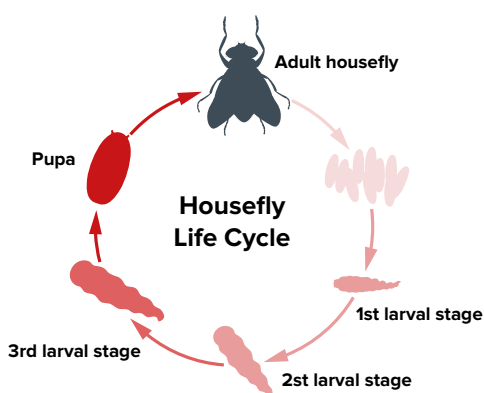
Climate Change Affects Pest Life Cycle and Behaviour

The rapid life cycle of pests mean climate change affects them quickly too. Warmer temperatures correlate with higher daily and seasonal insect activities, longer feeding periods, and faster reproductive cycles.

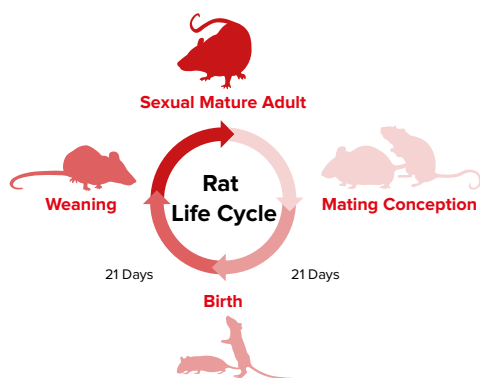
Scientists estimate that a temperature difference as small as two degrees celsius could result many insect species completing one to five additional life cycles per season⁽¹¹⁾.

For example; house flies (*Musca domestica*) can complete its life cycle in 3-7 days under optimal breeding conditions and are found to have increased numbers during warm temperatures.

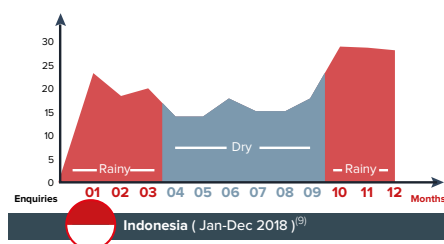
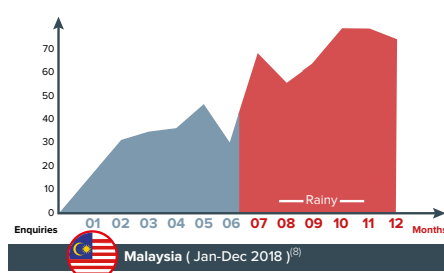
Besides providing house flies a conducive environment to breed, humidity also support the composting process, which is an important food source to house flies.



Same behaviour applies to rats life cycle as well.



This behaviour is further justified with the trend analysis collected from myRentokil which showed that flies infestation picked up during wet season in Malaysia and Indonesia.



Premises near the river banks are a high risk because they seek shelter elsewhere.

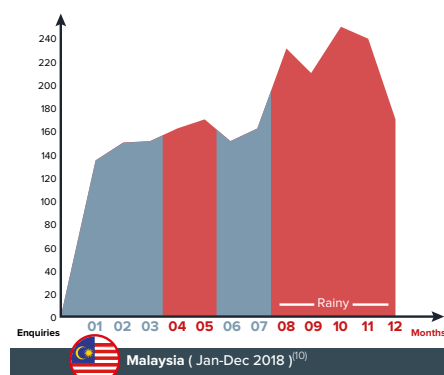
Added to the climatic factors are increasing urbanisation worldwide, and international travel and trade. Most of this growth will occur in developing countries where urbanisation is likely to be rapid, perhaps even unplanned and unsustainable.

Subsequently it creates a complex mix of microhabitats that is a haven for pests, and focal points for the spread of zoonotic diseases like Leptospirosis and Salmonellosis.

myRentokil's trend analysis also showed that rodent activities tend to spike during the wet season as well especially in flood and typhoon prone Asian countries.

Premises near the river banks especially show high risk because their harbourage areas are affected, forcing them to seek shelter elsewhere.

It is true that human activities have unwittingly helped the spread of urban pest infestations with an abundance of food and water in addition to the protected shelter from natural predators. Modern buildings, for example, with their internal ducts, voids, false floors and ceilings, provide a perfect setting for pests.



(8) (9) (10) Data from myRentokil Pest Trending
 (11) <https://www.plunketts.net/blog/climate-change-pest-control/>

Pest Hotspots in Food & Beverage Related Sectors

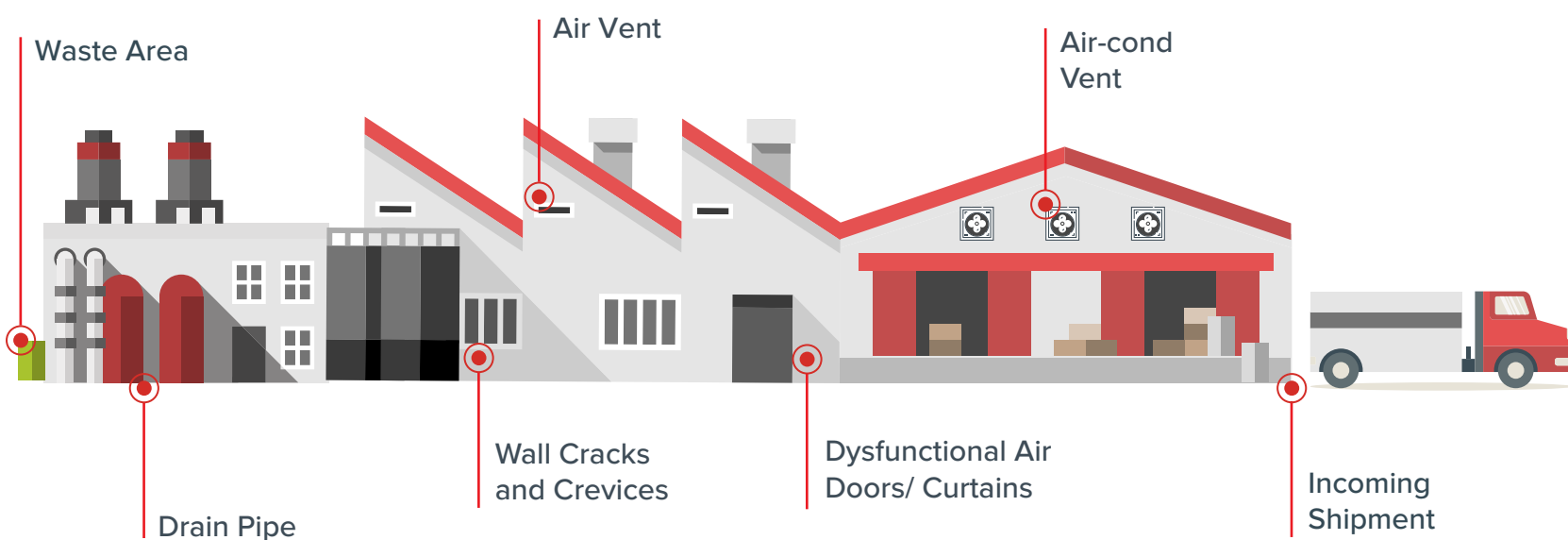
Mice and other rodents, and flies, are consistently recognised as being common pests in the food and beverage manufacturing industry. Pest can enter any premises through various ways; flying in, foraging in or 'delivered' in pallets, raw or packaging materials. There are no limits to the places where one can find pests and the same goes for entry points of the building.

Each of these pests displays specific behaviour and preferences that see them thrive in their environment of choice that humans create; whether it is a greasy kitchen, food remnants in the cafeteria, warm and damp warehouse, spillages in production area, open waste area and more. The key to combating such infestations lies in understanding pest behaviour and proactively taking the correct pest control measures.

Sanitation and structural integrity are all critical elements of pest management that must be inspected regularly to ensure there are no gaps that will provide pests the advantage to invade and threaten food safety.

Commercial buildings are constructed from types of materials and design methods that vary greatly in the degree of susceptibility to pest infestation. And most structures may eventually more vulnerable due to deterioration, alteration, or repair. Air conditioning, plumbing, electrical service, and fire sprinklers also provide some of the most commonly encountered rodent entry points.

Potential Pest Entry Points in a Food and Beverage Processing Facilities



Food Safety and Integrated Pest Management (IPM) are Inseparable

There are many aspects to assure that an item is wholesome and not adulterated during the processing and preparation of food products. The focus have changed over the years into preventing contamination rather than responding to it after it occurs.

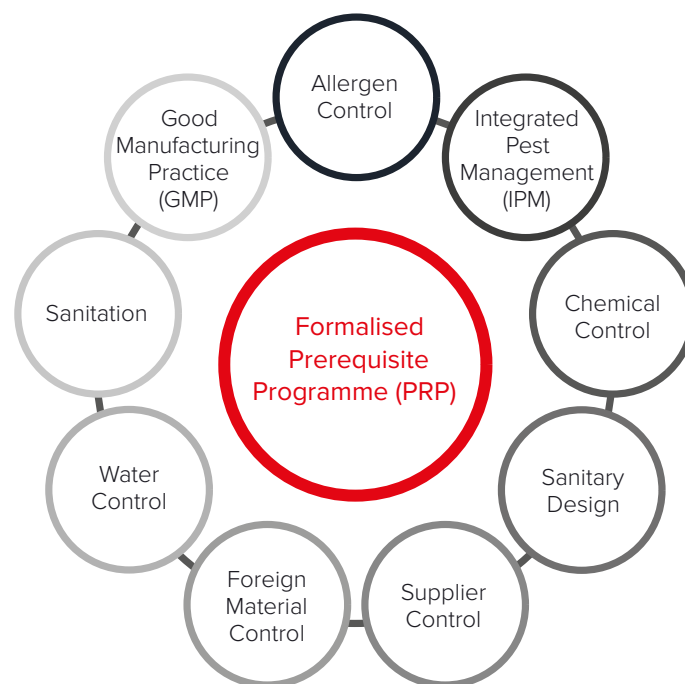
A modern approach to food safety is a comprehensive science-based preventive system to manage potential biological, chemical, and physical hazards that can cause the production and handling of food to be unsafe.

In food-related businesses where adulteration is one of the hot issues, pest control is a must because nobody wants to find something in the food that is not on the label or the menu. But precautions must be taken to keep pest control treatments from threatening food safety as well.

The requirements to better control pests while respecting the sensitive needs of a food environment have evolved, and a proactive approach with Integrated Pest Management (IPM) is the most appropriate and compliant.

All food business must have in place Prerequisite Programmes (PRPs). These are good practices which control the operational conditions within a food establishment and promote environmental conditions that are favourable for the production of safe food.

PRPs are absolutely essential as they form the foundation of a food safety programme and also an integral part of professional standards and audit schemes globally.



However, problems will still arise without well-developed PRPs that are properly documented, implemented and maintained.

IPM is a combination of structured system and sustainable methods of managing pests based on data, scientific information such as pest behaviour and biology, and environmental considerations.

Well designed IPM programmes are successful when the underlying causes of pest infestations are addressed and risks are mitigated through an integration of multiple control strategies. There is a need to understand that IPM is a process, not a one-time event, that needs to be maintained once it has been implemented, followed through, reviewed and will stand up to auditor scrutiny.

IPM is not limited to food & beverage manufacturing as the principles or methodology can be applied in all other sectors and even at home. Where food is relevant or a core part of the business, the need for proactive pest management is definitely much greater, and subject to food safety and hygiene legislation, regulated by national governments and auditing.

Public tolerance towards pest problems will continue to decrease and a gradual realisation that the traditional way of solely relying on chemical control is no longer the best approach to achieve long-term pest management solution.

Rentokil Initial continues to provide support in strengthening awareness and knowledge about integrated pest management to protect communities and businesses around the world through active participation in Global Food Safety Initiatives, a collaborative organisation that brings together key food industry players together in driving continuous improvement in food safety management systems around the world.

Beside this, Rentokil Initial also initiated World Pest Day, a milestone in the global pest management industry, that aims to increase awareness of pest-borne diseases and safeguard public health through scientific and professional pest control methods.

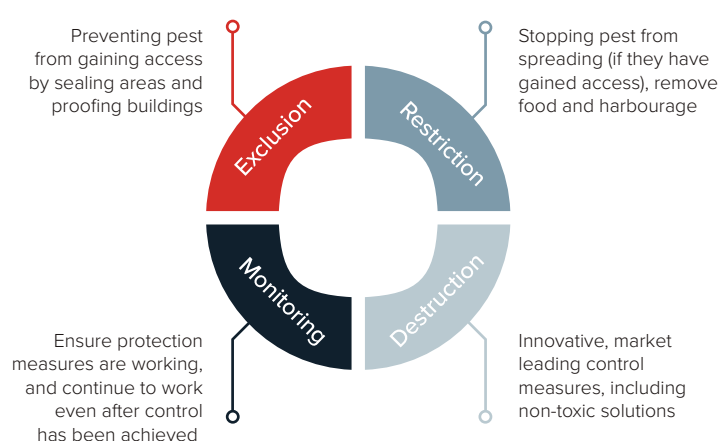
It was simultaneously celebrated around the globe with over 30 international organisations signed to support the initiative as this will help establish the platforms for global exchange and collaborations, and to improve industrial technologies, standards and regulations.

At the same time in China, the government has made food safety a priority in its 12th Five-Year Plan while Chinese food producers and retail giants are adopting innovations such as Internet of Things (IoT) and blockchain technologies to prove the value of their product and regain confidence among consumers⁽¹²⁾.

The Food Safety and Standards Authority in India has been catching up in their bid to improve the country's food safety landscape including updates in food regulations, and the launch of FosTaC portal that requires one trained and certified food safety supervisor in all food businesses⁽¹³⁾.

Protecting Business and Improving Supply Chain Risk Management with IPM

Rentokil has developed its knowledge and expertise over 90 years and in over 60 countries worldwide to offer effective pest management solutions from rodents control, bird control, stored product insects control to bedbugs control and many more, through a global team of over 12,000 professionally trained technicians. Our IPM approach is based on four principles that together we call ERDM:



Implementing a successful IPM programme relies on basic knowledge of pest lifecycles, an understanding of building integrity with focus on prevention, and due diligence in establishing a defined frequency for monitoring, corrective action and education. Hence Rentokil IPM programmes are written to suit each customer’s requirements and align with recognised professional standards like GFSI, AIB and BRC and customer audits like YUMS!.

It also includes pest awareness training for employees to help recognise early signs of pest activity, and online tools to monitor, track, document and report pest management activities in supporting businesses to be audit compliance.

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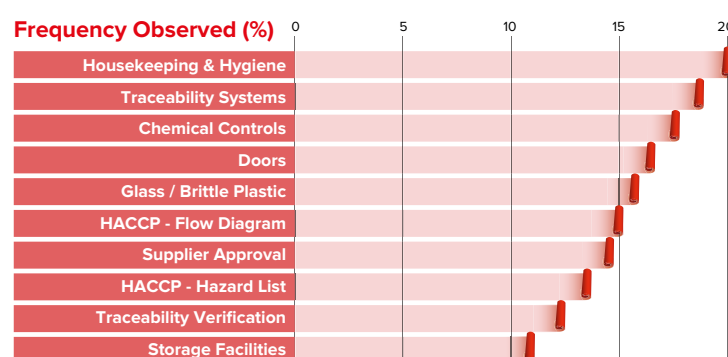


Figure 1 illustrates the percentage of sites exhibiting one of the top 10 non-compliances recorded by BRC auditors. Ineffective hygiene programmes remain a principle cause for audit non-compliance. In particular, they show that effective sanitation, cleaning, personal hygiene and pest management programmes are essential prerequisites of any food standards programme and help to minimise the likelihood of product contamination.

Rentokil

The Experts in Pest Control



Why Rentokil?

Rentokil is the global leader in pest control, bringing expert, reliable and professional service to commercial and residential customers in over 70 countries worldwide.

As the experts in pest control, we work closely with you to:

Give you peace of mind

With over 12,000 qualified technicians worldwide, we have extensive experience across a wide range of industry sectors. Our experts work proactively in partnership with you to minimise the threat of pest infestations in your business.

Safeguard your reputation

We take a dual approach, incorporating both preventative and responsive strategies to enhance protection for your business through a consistent, continuous pest control programme.