Applying Net Risk

The Safety Case for UK Drone Regulations

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FOREWORD

Over the past decade, I have worked at the intersection of aviation, agriculture, environmental management, and regulation, supporting the introduction of unmanned aircraft systems into some of the UK's most hazardous working environments. Throughout this period, one question has repeatedly surfaced in discussions with regulators, policymakers, insurers, and industry leaders:

Why do we assess the risks introduced by drones in isolation, while failing to account for the risks they remove?

This white paper is written in response to that question.

Across multiple sectors, particularly agriculture, land management, construction, utilities, and environmental restoration workers are routinely exposed to well-documented hazards. These hazards are not theoretical. They are recorded year after year through the Health and Safety Executive's Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)[1]. The resulting injuries and fatalities are tragically familiar: falls from height, contact with moving machinery, exposure to hazardous substances, slips and falls on unstable terrain, and incidents occurring in confined or remote environments.

At the same time, drone technology has matured. In many of these settings, tasks can now be carried out remotely, with the operator physically separated from the hazard. Yet regulatory frameworks have struggled to keep pace. The introduction of drones is often assessed primarily through the lens of novel aviation risk, without a structured comparison to the incumbent methods they replace.

This imbalance matters. By focusing narrowly on what might go wrong with drones, we overlook what goes wrong every day without them. In doing so, we inadvertently sustain higher levels of occupational harm, suppress innovation that could improve safety outcomes, and impose unnecessary socio-economic costs on workers, businesses, and the public sector. This paper therefore adopts the net risk perspective articulated by PwC [2], aligned with established safety and economic principles. It does not argue that drones are risk-free. Rather, it demonstrates that their failure modes are often fundamentally different, and frequently far less harmful, than those associated with the activities they replace. Thanks to Craig Roberts, Head of Aerial Intelligence & Innovation at PwC, for his review and suggestions.[3]

Ultimately, this paper is a call for proportionate, evidence-led policy. If we fail to recognise avoided harm alongside introduced risk, we risk allowing preventable injuries and fatalities to continue not because safer alternatives do not exist, but because our systems have not yet learned how to count them.

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1 Health and Safety Executive (HSE), Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), Great Britain, available at: https://www.hse.gov.uk/riddor/

2 PwC, UK Drone Regulations and Net Risk, balancing risk to unlock growth and save lives, available at: https://www.pwc.co.uk/intelligent-digital/drones/drone-regulations-and-net-risk.pdf

3 This acknowledgement does not constitute an endorsement by PwC.

EXECUTIVE SUMMARY

UK regulatory debate around drones frequently focuses on aviation risk in isolation. This paper demonstrates that such an approach is incomplete.

Drawing on Health and Safety Executive (HSE) RIDDOR data [4], sector-specific working practices, and the net risk principles established by PwC[5], this paper shows that drones often reduce overall societal harm by removing workers from the highest-risk exposure pathways, including:

- working at height
- operating in proximity to moving machinery
- exposure to hazardous substances
- accessing unstable or remote terrain
- travel to site

RIDDOR data consistently shows that these hazards account for a substantial proportion of serious and fatal workplace injuries across agriculture, construction, utilities, and land management.

PwC's paper adds the missing half of the equation. Claims data from specialist drone insurers and incidents reported by aviation authorities show that commercial drones have low intrinsic risk. Set against the RIDDOR incident data in this paper, there is a case for a net risk approach to drone regulation: drones remove much more harm than they introduce when they replace higher risk current methods.
This paper does not claim that drones would have prevented all past incidents. Instead, it identifies credible substitution pathways in which drone deployment removes or materially reduces exposure to the hazard that caused harm.

The conclusion is clear:

Risk should be assessed comparatively, not additively.

Where drones replace hazardous incumbent methods, avoided occupational harm should be explicitly recognised alongside introduced aviation risk.

4 Health and Safety Executive (HSE). Non-fatal injuries at work by accident kind and industry, RIDDOR, 2024/25. HSE Statistics. Available at: https://www.hse.gov.uk/statistics/tables/index.htm

5 PwC, UK Drone Regulations and Net Risk, balancing risk to unlock growth and save lives, available at: https://www.pwc.co.uk/intelligent-digital/drones/drone-regulations-and-net-risk.pdf

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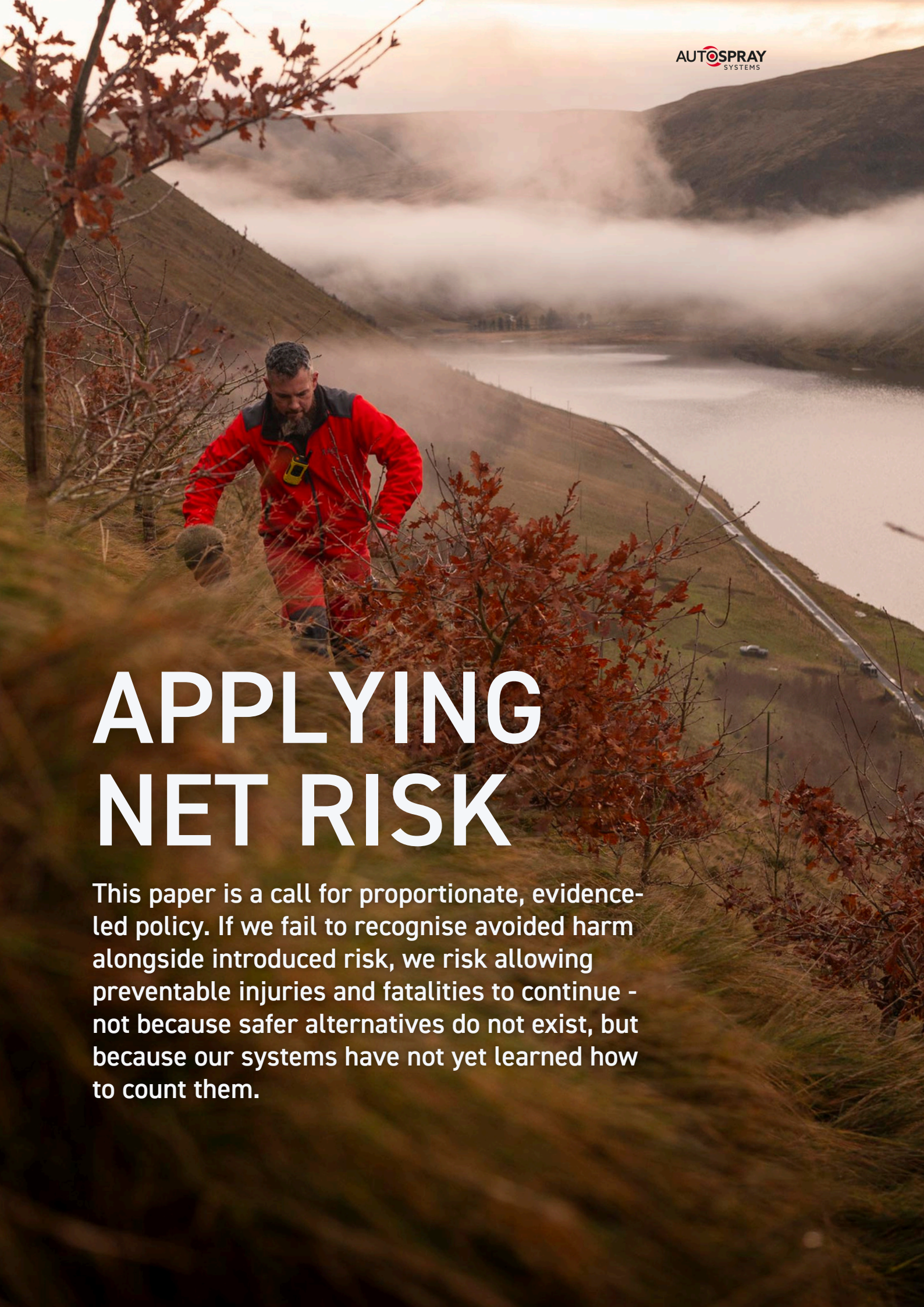


APPLYING NET RISK

This paper is a call for proportionate, evidence-led policy. If we fail to recognise avoided harm alongside introduced risk, we risk allowing preventable injuries and fatalities to continue - not because safer alternatives do not exist, but because our systems have not yet learned how to count them.

1. UNDERSTANDING NET RISK IN OCCUPATIONAL SAFETY AND REGULATION

Regulatory frameworks traditionally assess risk by examining the hazards introduced by a new technology in isolation. When drones replace existing hazardous work, this approach becomes incomplete.
The net risk framework introduced by PwC [6] suggests that total system harm is evaluated before and after substitution, explicitly recognising avoided worker exposure. The relevant question is not whether drones introduce risk, but whether total harm increases or decreases once substitution occurs.

This approach aligns closely with established UK safety doctrine, including the HSE hierarchy of control[7], which prioritises elimination and substitution of hazards over procedural controls or personal protective equipment. Drone substitution represents a natural extension of this logic, removing the requirement for exposure altogether.
While this paper focuses on drones, the net risk principle is not drone-specific. It applies to any technology that substitutes hazardous human activity with remote or automated systems. Drones are examined here because they are mature, deployable, and currently subject to regulatory frameworks that rarely credit avoided occupational harm.

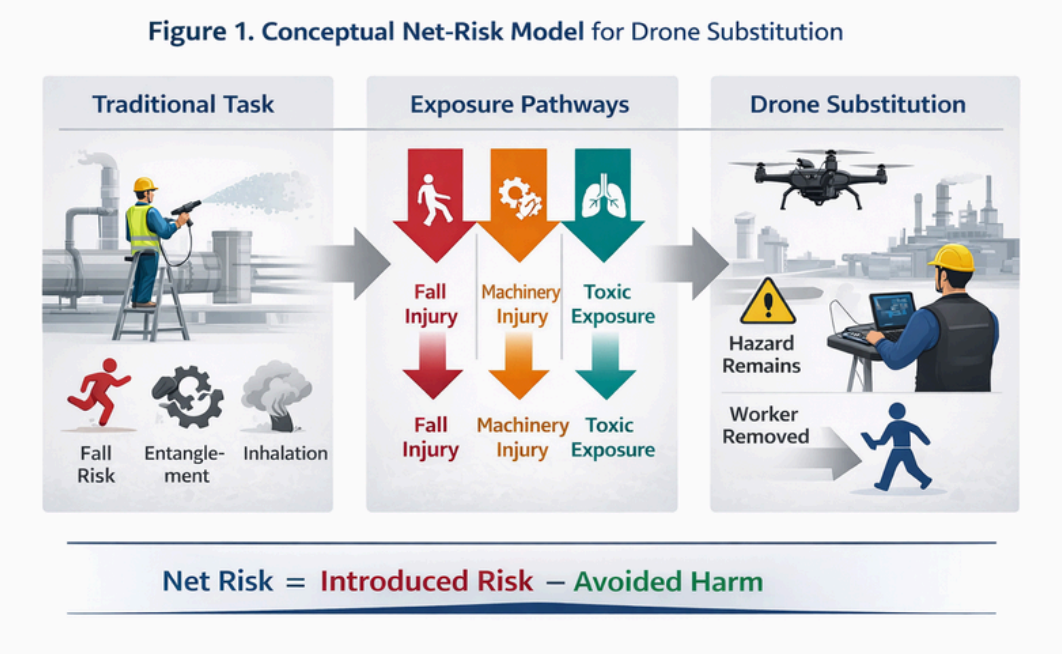


Figure 1.
Conceptual illustration of net risk assessment aligned with established CAP 722 and SORA risk principles. While the underlying hazard and its potential severity may remain unchanged, drone substitution reduces the likelihood of worker harm by removing the operator from the exposure pathway. Net risk is therefore reduced through mitigation, consistent with probabilistic aviation risk-assessment frameworks.

6 PwC, UK Drone Regulations and Net Risk, balancing risk to unlock growth and save lives, available at: https://www.pwc.co.uk/intelligent-digital/drones/drone-regulations-and-net-risk.pdf

7 Health and Safety Executive, The hierarchy of control, available at: https://www.hse.gov.uk/risk/faq.htm

2. RIDDOR EVIDENCE: What Harm Looks Like in Practice

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)[8] provide the United Kingdom's most comprehensive dataset of serious workplace harm. They reflect real incidents arising from routine operational tasks rather than exceptional or anomalous events.

It is well recognised that RIDDOR does not capture all workplace harm, particularly among the self-employed or for lower-severity injuries. RIDDOR figures should therefore be treated as a minimum bound on occupational harm. From a net risk perspective, this strengthens the argument: if baseline harm is under-recorded, the potential safety dividend from exposure-removing technologies is likely to be understated.

This paper does not claim that drones would have prevented all incidents recorded under RIDDOR. Nor does it attempt to retrospectively reclassify individual incidents as "drone-preventable". Instead, it identifies credible substitution pathways in which drone deployment removes or materially reduces worker exposure to the hazard that caused harm.

Figure 2 — Occupational Harm Concentrated in Repeatable Hazard Types

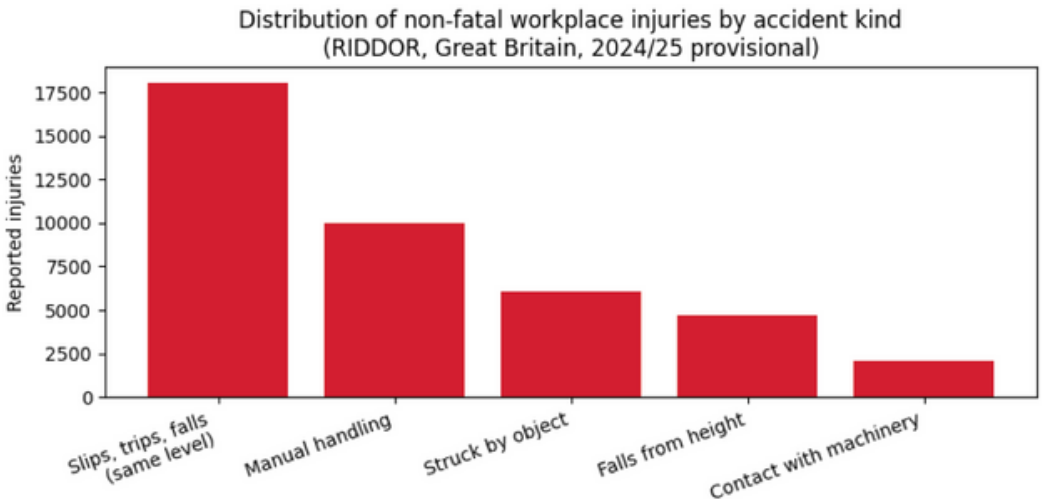


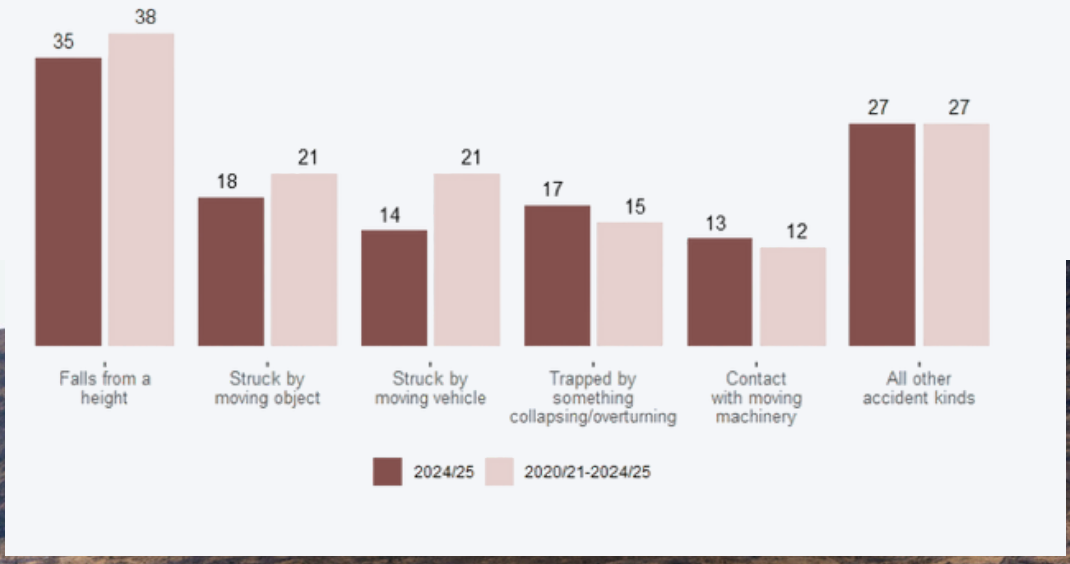
Figure 2.
Distribution of reported non-fatal workplace injuries by accident kind (RIDDOR, employees, Great Britain, 2024/25 provisional). A small number of hazard types account for most of the reported harm

8 Health and Safety Executive (HSE). Work-related fatal injuries in Great Britain, 2024/25 (provisional). HSE Statistics. Available at: https://www.hse.gov.uk/statistics/fatals.htm

Table 1 — All-Industry Non-Fatal Injuries by Accident Kind (RIDDOR, 2024/25 provisional, selected categories only)

Accident kind	Reported injuries
Slips, trips or falls on the same level	18,051
Handling, lifting or carrying	10,012
Struck by moving or falling object	6,054
Falls from height	4,684
Contact with moving machinery	2,088
Exposure to harmful substances	564

Table 2 — Worker Fatalities by Accident Kind (All Industries) [9]



9 Health and Safety Executive (HSE). Work-related fatal injuries in Great Britain, 2024/25 (provisional). HSE Statistics.
Available at: https://www.hse.gov.uk/statistics/fatals.htm

3. SECTOR CASE STUDIES: Applying Net Risk in Practice

This section applies the net risk framework to sectors in which occupational harm is persistent, well documented, and structurally linked to routine working practices. The analysis is intentionally conservative. It does not assert that drones eliminate all risk, nor that all activities within these sectors are suitable for substitution. Instead, it focuses on task-level substitution, where drones replace specific activities that require hazardous proximity.

The purpose is not to downplay residual aviation or operational risk, but to ensure that avoided occupational harm is explicitly recognised alongside introduced risk.

3.1 AGRICULTURE AND LAND MANAGEMENT

Agriculture remains one of the United Kingdom's most hazardous industries on a per worker basis. Health and Safety Executive RIDDOR reporting consistently highlights serious and fatal injuries arising from interaction with machinery, falls from height, unstable or uneven terrain, and exposure to hazardous substances. These hazards are inherent to routine agricultural activities and recur across holdings and seasons.

Drone deployment enables the substitution of specific high risk tasks, including spraying, inspection, and monitoring, without requiring the operator to be physically present within the hazard environment. By removing the worker from proximity to moving machinery, spray plumes, and uneven ground, drone-enabled operations materially reduce exposure to the dominant causes of recorded harm. Where operational failures occur, outcomes are typically limited to equipment damage or operational disruption rather than human injury.

This risk profile is reflected in experience from the insurance industry. Insurers active in the drone sector report very low levels of third party liability claims associated with drone operations, with anticipated claim volumes not materialising in practice. This contrasts with the established claims history associated with conventional agricultural activities involving direct human exposure to machinery, chemicals, and hazardous terrain. From a net risk perspective, this divergence indicates that while operational risk remains, the consequences of failure have shifted away from human harm.

Taken together, this evidence supports a net risk or net gain outcome, in which drone-enabled substitution reduces total system harm by relocating risk away from people rather than attempting to eliminate it entirely.

Net risk outcome:

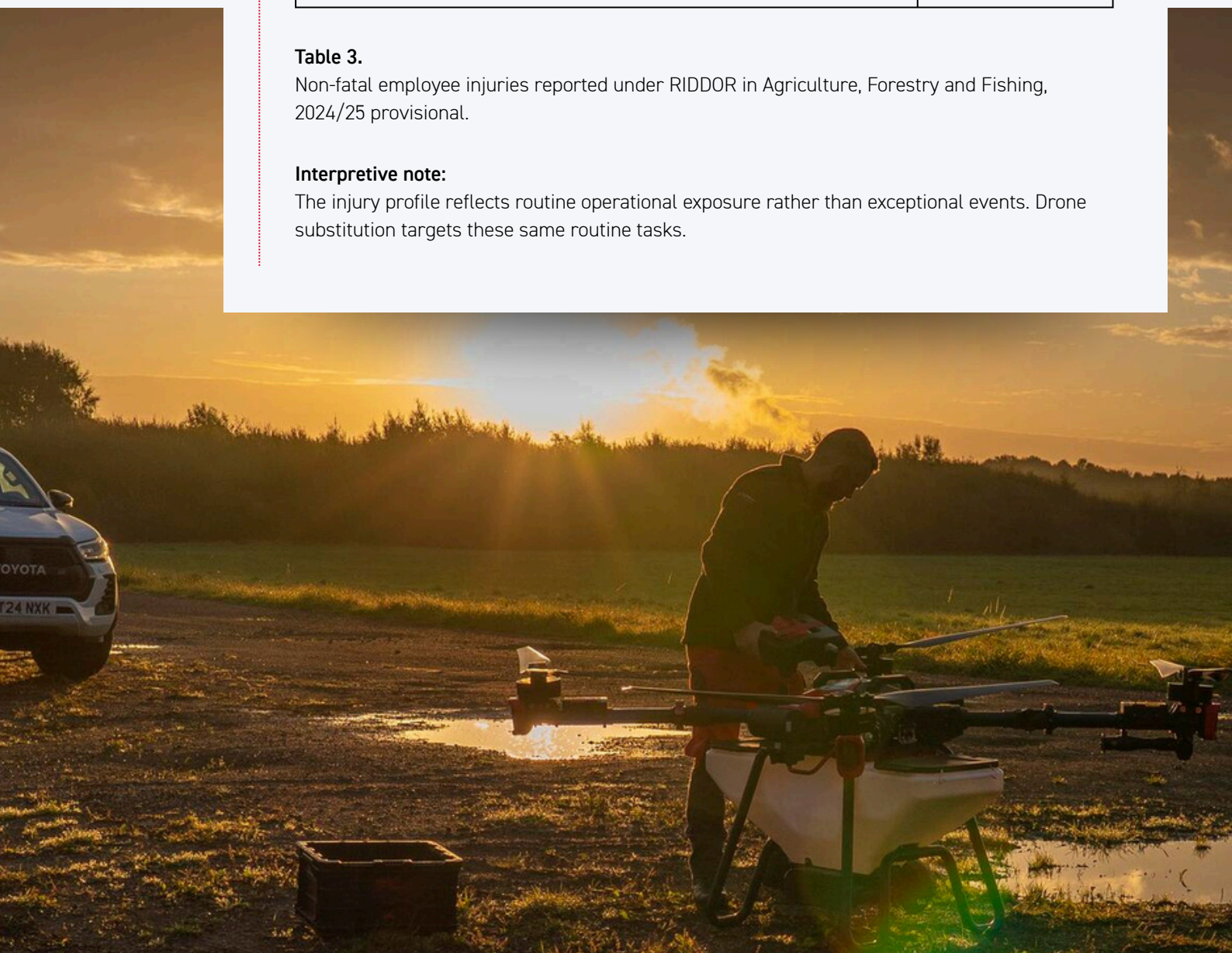
- mechanical proximity removed
- chemical exposure pathways broken
- terrain related fall risk reduced

Table 3 - Agriculture, Forestry and Fishing: Non-Fatal Injuries

Accident kind	Reported injuries
Slips, trips or falls on same level	187
Struck by moving, flying or falling object	85
Injured by animal	80
Falls from height	79
Contact with moving machinery	72
Handling, lifting or carrying	71
Exposure to or contact with harmful substance	10

Table 3.
Non-fatal employee injuries reported under RIDDOR in Agriculture, Forestry and Fishing, 2024/25 provisional.

Interpretive note:
The injury profile reflects routine operational exposure rather than exceptional events. Drone substitution targets these same routine tasks.



3.2 CONSTRUCTION AND THE BUILT ENVIRONMENT

Construction continues to experience high levels of serious and fatal injury, particularly because of falls from height.

Drones substitute inspection and survey tasks that would otherwise require ladders, scaffolding, or rope access. This removes exposure to one of the sector's most severe and persistent hazard pathways while introducing comparatively low-severity failure modes.

Net risk outcome:

- work-at-height exposure eliminated for substituted tasks
- secondary risks associated with temporary access systems avoided

Further sector-specific breakdowns are provided in Annex A.

3.3 UTILITIES, INFRASTRUCTURE, AND ENVIRONMENTAL WORKS

Utilities and environmental operations frequently require access to elevated, confined, live, or remote assets.

Drone substitution enables stand-off inspection and monitoring, reducing the need for climbing, confined-space entry, and prolonged exposure near live systems.

Net risk outcome:

- work-at-height exposure reduced
- electrocution exposure reduced
- confined-space entry avoided

Further sector-specific breakdowns are provided in Annex A.

4. AVIATION AND PUBLIC RISK

The net risk framework set out in this paper is consistent with the risk-assessment principles embedded within UK aviation policy.

Within aviation safety regulation, risk is understood as a function of severity and likelihood. In many operational contexts, the severity of potential harm is effectively fixed by physics. Risk reduction is therefore achieved primarily by reducing the likelihood of exposure through mitigations.

This approach is explicit within CAP 722 guidance[10], where mitigations such as operational containment, separation distances, procedural controls, and fail-safe mechanisms act to reduce probability rather than alter inherent severity.

Drone substitution operates within this same logic. The hazard itself may remain unchanged, but by removing the worker from the exposure pathway, the likelihood of harm to a person is materially reduced. In CAP 722 terms, this represents risk reduction through mitigation rather than a redefinition of severity.

PwC's insurer and aviation authority incident evidence suggests that third-party bodily injury claims are exceptionally rare for commercial drones. Most losses are minor property or equipment damage. The picture is similar in comparable countries: drones have a low intrinsic risk, regardless of regulatory approach[11].

Nothing in this approach diminishes the importance of aviation safety, airspace integration, or third-party protection. These risks remain legitimate and must continue to be assessed rigorously. The argument advanced here is that it is incomplete to assess aviation risk in isolation, without also recognising the occupational risks displaced by substitution.

4.1 ALIGNMENT WITH SORA PROBABILISTIC RISK MODELLING

The net risk framework is also consistent with the probabilistic risk-modelling principles embedded within the Specific Operations Risk Assessment (SORA) framework[12].
SORA uses a mathematically derived approach to risk, in which baseline ground and air risk is progressively reduced through successive mitigations. These mitigations do not alter hazard severity; instead, they reduce the probability of harm occurring.

10 Civil Aviation Authority, CAP 722: Unmanned Aircraft System Operations in UK Airspace – Guidance, latest edition.

11 PwC, UK Drone Regulations and Net Risk, balancing risk to unlock growth and save lives, available at: https://www.pwc.co.uk/intelligent-digital/drones/drone-regulations-and-net-risk.pdf

12 ARUS, SORA Concept of Operations and Risk Modelling Methodology, describing probabilistic reduction of ground and air risk through mitigations.

Drone substitution operates within this same probabilistic logic. By removing the worker from the exposure pathway, the likelihood of occupational harm is materially reduced, even though the hazard may persist.

Referencing SORA does not imply that it should be repurposed as an occupational safety model. Rather, it demonstrates that likelihood-based risk reduction is already an accepted regulatory concept, and that recognising avoided occupational harm represents a coherent extension of this thinking when evaluating substitution technologies.

4.2 HUMAN FACTORS AND FAILURE CONSEQUENCE

Independent analysis of uncrewed aircraft incidents reinforces the importance of distinguishing between failure causation and failure consequence. PwC's insurer evidence indicates that most claims are linked to pilot error and are typically low-severity, which supports the argument that many incidents are operationally driven with limited consequences[13]. Research published by Moonrock Insurance[14] backs this up and indicates that pilot or human factors account for a significant proportion of reported drone incidents, particularly in early-stage or rapidly evolving operational contexts.

This finding is relevant to net risk assessment for two reasons. First, it confirms that many drone incidents arise from controllable operational factors rather than systemic or catastrophic technical failure. Second, and more importantly from a policy perspective, it highlights that the severity of outcomes associated with such incidents is typically limited to asset damage or operational disruption.

By contrast, failures associated with incumbent occupational methods, such as falls from height, machinery entanglement, or direct exposure to hazardous substances frequently result in serious injury or fatality. In net risk terms, a system in which failure is more likely but consequences are low-severity may present a lower overall risk than a system that fails less often but with catastrophic human outcomes.

This distinction aligns with established aviation safety principles, which recognise that reducing the consequences of failure is as important as reducing the likelihood of failure itself. It further supports the argument that drone-enabled substitution can reduce total system harm, even where residual operational risk remains.

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13 PwC, UK Drone Regulations and Net Risk, balancing risk to unlock growth and save lives, available at: https://www.pwc.co.uk/intelligent-digital/drones/drone-regulations-and-net-risk.pdf

14 Moonrock, Analysis of Uncrewed Aircraft Incident Causation, identifying pilot or human factors as a primary contributor to reported drone incidents. https://moonrockinsurance.com/reducing-pilot-error-in-uav-insurance/

4.3 Alignment of Net Risk Assessment with Existing Regulatory Frameworks

The net risk approach described in this paper does not represent a departure from established safety doctrine. Rather, it builds directly on core principles already embedded within UK occupational and aviation safety frameworks, while highlighting how those principles may be applied more consistently when assessing substitution technologies.

Health and Safety Executive (HSE) – Hierarchy of Control

The HSE hierarchy of control prioritises the elimination and substitution of hazards wherever reasonably practicable. Removing workers from exposure to hazardous activities is recognised as a more effective and reliable risk control than reliance on procedural measures or personal protective equipment. Drone enabled substitution reflects this principle by removing the requirement for direct human exposure to well established sources of harm.

CAP 722 – Aviation Risk Assessment

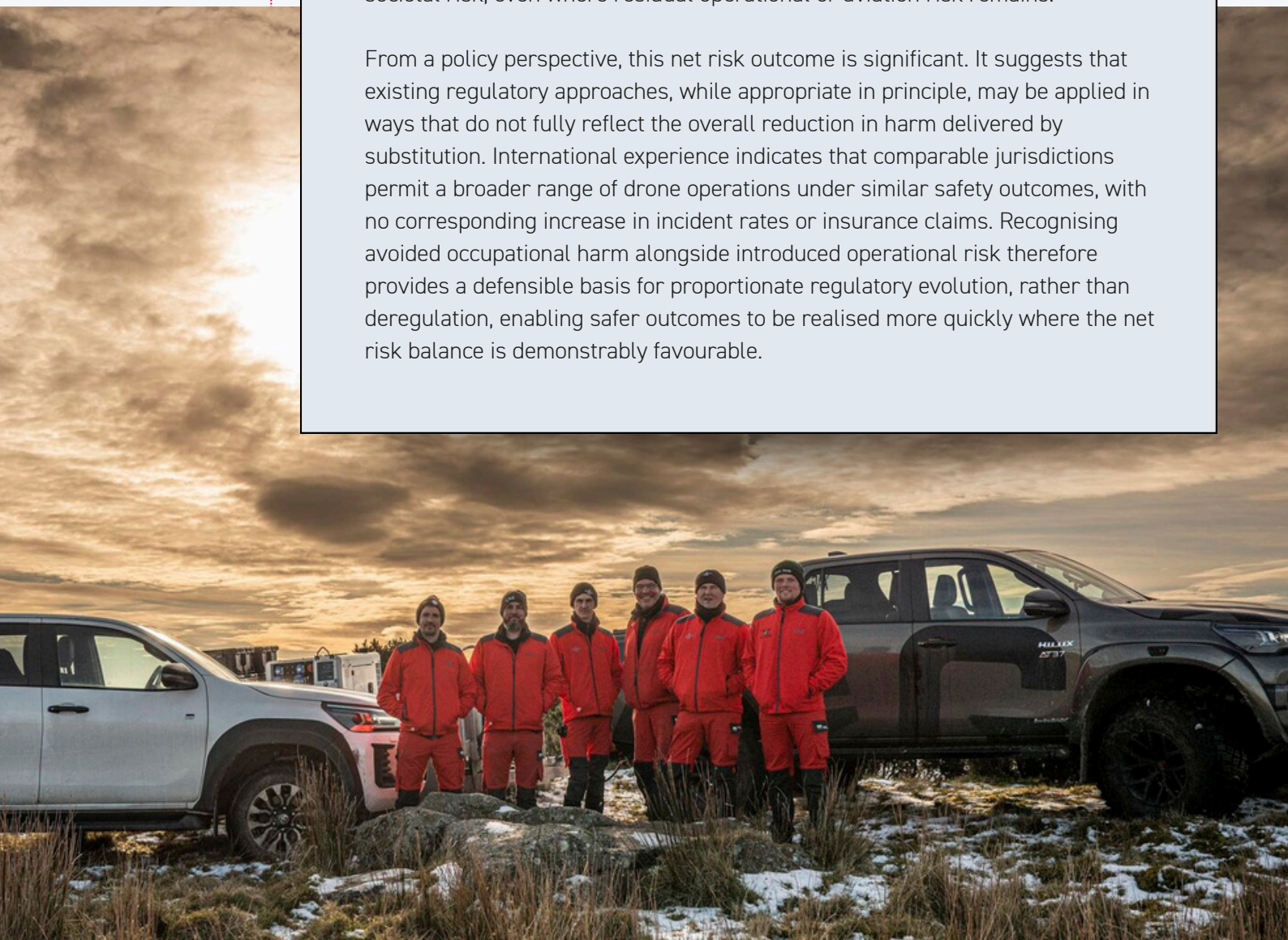
CAP 722 treats risk as a function of severity and likelihood. In many operational contexts, the severity of potential harm is fixed by physical constraints, and risk reduction is therefore achieved primarily through mitigations that reduce the likelihood of occurrence rather than altering inherent severity. This approach accepts residual risk where effective mitigations are in place and where overall risk is demonstrably reduced

Alignment of Net Risk Assessment with Existing Regulatory Frameworks (continued)

Specific Operations Risk Assessment (SORA)
SORA applies a probabilistic and mathematically derived approach to risk assessment, in which baseline ground and air risk is progressively reduced through successive mitigations. These mitigations act to reduce the probability of harm occurring, while accepting that underlying hazard severity may remain unchanged. This framework explicitly recognises that proportionate risk reduction can be achieved without eliminating all sources of risk.

Drone substitution is consistent with all three frameworks. It does not remove the underlying hazard, nor does it redefine its severity. Instead, it reduces the likelihood of harm by removing the worker from the exposure pathway. When viewed through a net risk lens, this produces a measurable reduction in total societal risk, even where residual operational or aviation risk remains.

From a policy perspective, this net risk outcome is significant. It suggests that existing regulatory approaches, while appropriate in principle, may be applied in ways that do not fully reflect the overall reduction in harm delivered by substitution. International experience indicates that comparable jurisdictions permit a broader range of drone operations under similar safety outcomes, with no corresponding increase in incident rates or insurance claims. Recognising avoided occupational harm alongside introduced operational risk therefore provides a defensible basis for proportionate regulatory evolution, rather than deregulation, enabling safer outcomes to be realised more quickly where the net risk balance is demonstrably favourable.



5. SOCIO-ECONOMIC IMPLICATIONS OF NET RISK ACCOUNTING

Occupational injury and fatality impose substantial and enduring socio-economic costs that extend well beyond the immediate incident. These costs are borne not only by injured workers and employers, but also by the public sector through healthcare provision, enforcement activity, and wider economic disruption.

Reported workplace injuries generate direct pressure on the National Health Service[15], including emergency response, hospital treatment, rehabilitation, and, in some cases, long-term care. Serious incidents also create investigatory and enforcement costs for regulators, alongside legal, insurance, and compensation burdens for employers. Where injury results in long-term incapacity or fatality, additional societal costs arise through lost productivity, skills attrition, and increased reliance on welfare support.

These impacts are not evenly distributed. Sectors characterised by routine exposure to physical hazards such as agriculture, construction, utilities, and land management consistently account for a disproportionate share of serious and fatal workplace harm. As a result, the socio-economic costs of occupational injury are concentrated precisely in those sectors where drone-enabled substitution offers the greatest potential to reduce exposure.
This framing is consistent with the net risk approach articulated by PwC [16], which highlights that policy and regulatory decisions can be systematically distorted when assessments focus only on the risks introduced by new technologies, while failing to account for the risks they remove. PwC's analysis demonstrates that this asymmetry can result in the continued reliance on familiar but hazardous incumbent practices, even where safer alternatives are available.
The net risk framework applied in this paper operationalises this principle in an occupational safety context. Rather than treating drone adoption as an isolated source of aviation or operational risk, it evaluates total system impact, explicitly recognising avoided injury, fatality, and exposure alongside introduced risk. This reflects PwC's core conclusion that meaningful net risk assessment must consider both sides of the ledger: what is added, and what is taken away.

Failure to recognise avoided harm does not preserve neutrality. It sustains existing patterns of harm by default. Where regulatory decision making is slow, highly precautionary, or uneven in its treatment of new and incumbent risks, the outcome is not risk avoidance but risk continuation, with real human and economic costs accruing over time.

15 Health and Safety Executive, The costs of workplace injury and ill health, Great Britain.- https://www.hse.gov.uk/statistics/cost.htm

16 PwC, Net Risk: Accounting for the Risks That New Technologies Remove, PwC UK, available at - https://www.pwc.co.uk/services/technology/drones/drone-regulations-and-net-risk.html

Where regulatory decision-making is slow, precautionary, or asymmetric, the consequence is not risk avoidance but risk continuation, with real human, economic, and societal costs accruing during periods of delay.

From a socio-economic perspective, even marginal reductions in the likelihood of serious injury or fatality can generate significant public value when applied across large workforces and repeated tasks. In this context, safety improvement is not solely a regulatory objective but a material economic outcome, reducing long-term pressure on public services while supporting workforce sustainability and productivity.

In policy terms, incorporating net risk considerations into regulatory decision making supports the objectives of proportionate regulation and better outcomes. It allows innovation to be assessed not only on the basis of hypothetical future risk, but also in light of ongoing, evidenced harm that continues in the absence of substitution. In doing so, it provides a clearer basis for the United Kingdom to realise societal benefit from technologies that demonstrably reduce total harm, while remaining fully consistent with existing regulatory duties and safety standards.

Why Net Risk Matters for Timely Regulation

Failure to act on net risk evidence does not preserve safety; it preserves existing harm. Where regulatory systems assess only the risks introduced by innovation, but do not account for the risks it removes, delay itself becomes a source of socio-economic cost.

Net risk accounting provides ministers with a defensible basis to challenge slow or overly precautionary regulatory processes. It allows decision-makers to ask not only "What might go wrong if we permit this?" but also "What continues to go wrong if we do not?"

In sectors with persistent, well-evidenced injury and fatality rates, prolonged regulatory timelines carry real human and economic consequences. Recognising avoided occupational harm enables regulators to prioritise decisions that reduce total societal risk, rather than defaulting to inertia in the face of novelty.

From a ministerial perspective, net risk provides a legitimate framework to support proportionate acceleration, ensuring that regulatory caution does not inadvertently sustain preventable injury, public-sector cost, and lost productivity.

6. SCOPE AND LIMITATIONS

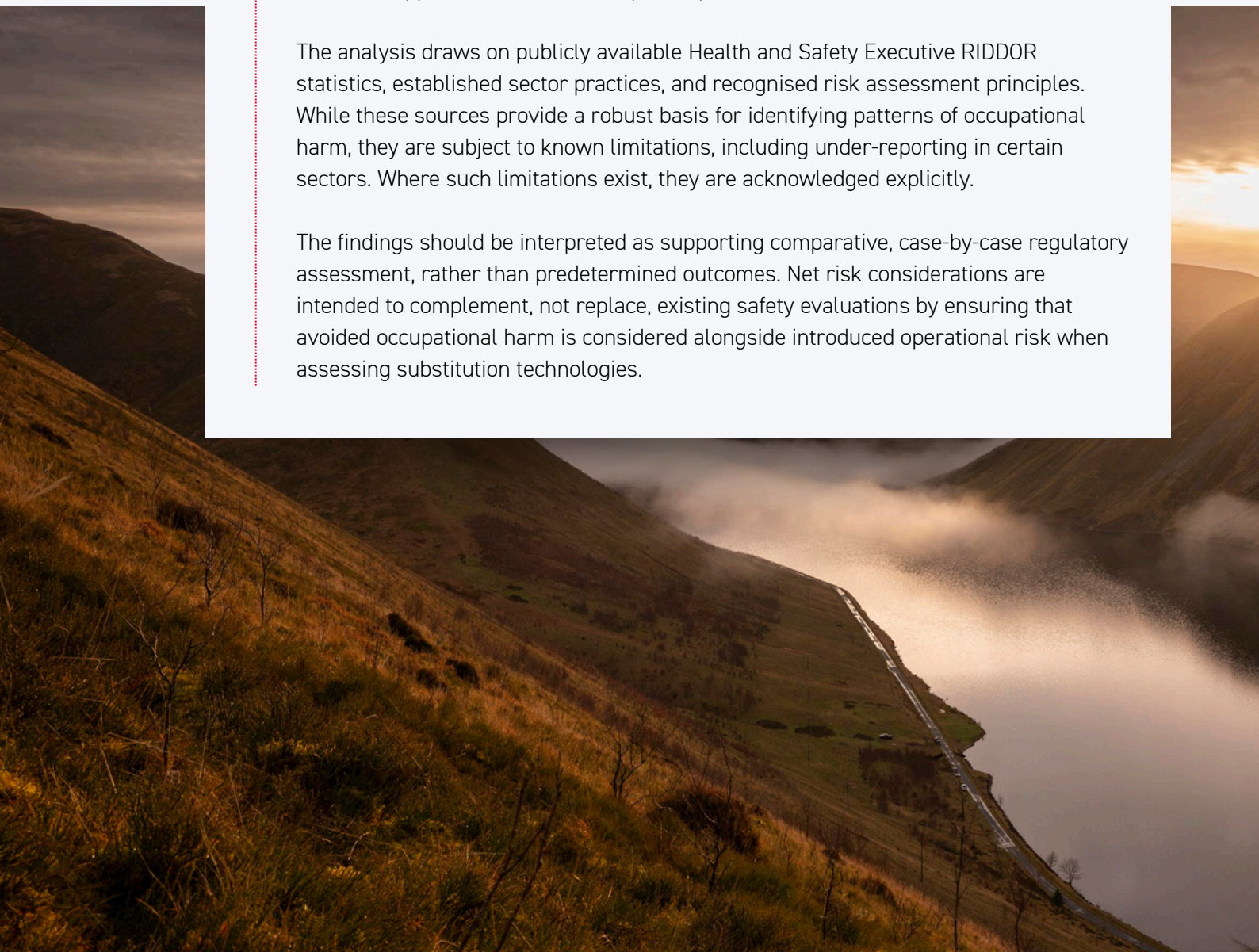
This paper is intended to inform policy discussion on the application of net risk assessment to drone-enabled substitution, within the context of existing UK regulatory frameworks.

It does not propose deregulation, nor the removal or dilution of aviation, health and safety, or environmental protections. All statutory duties placed on regulators, operators, and employers remain unchanged. Decisions relating to drone operations must continue to comply with applicable aviation, occupational safety, and environmental requirements.

The paper does not suggest that drones are suitable for all tasks or environments. It recognises that operational context, environmental conditions, and task-specific factors are critical to safe deployment. Net risk assessment is therefore presented as a decision-support framework, not a prescriptive rule-set.

The analysis draws on publicly available Health and Safety Executive RIDDOR statistics, established sector practices, and recognised risk assessment principles. While these sources provide a robust basis for identifying patterns of occupational harm, they are subject to known limitations, including under-reporting in certain sectors. Where such limitations exist, they are acknowledged explicitly.

The findings should be interpreted as supporting comparative, case-by-case regulatory assessment, rather than predetermined outcomes. Net risk considerations are intended to complement, not replace, existing safety evaluations by ensuring that avoided occupational harm is considered alongside introduced operational risk when assessing substitution technologies.



7. CONCLUSION

Drones do not eliminate risk. They relocate it away from people.

Across multiple sectors, occupational harm continues to arise from a small number of well-understood and repeatable hazard types. These harms are not theoretical; they are recorded year after year through statutory reporting and impose enduring human, economic, and societal costs.

Drone enabled substitution does not remove the underlying hazard, nor does it alter the potential severity of failure. What it changes, consistently and materially, is the likelihood of a person being exposed to that hazard. In established regulatory terms, this represents risk reduction through mitigation, achieved by removing the worker from the exposure pathway.

This logic is already embedded within UK safety doctrine. It aligns with the HSE hierarchy of control, with CAP 722's treatment of risk as a function of severity and likelihood, and with SORA's probabilistic approach to risk reduction through successive mitigations. Recognising avoided occupational harm therefore does not require a new risk philosophy, but a more complete and consistent application of existing ones.

Failing to account for avoided harm does not preserve safety. It risks sustaining preventable injuries and fatalities, not because safer alternatives do not exist, but because assessment frameworks have not yet adapted to fully recognise the risks that are no longer taken.

A net risk perspective ensures that decisions about drone adoption are grounded in total system safety rather than partial risk accounting. It supports proportionate regulation by enabling decision makers to recognise when increased deployment of drone-enabled solutions reduces overall societal risk, even where residual operational risk remains. Applied carefully, this approach delivers safer outcomes more quickly, encourages safer working practices, and aligns innovation with the fundamental objective shared by all safety regulation: **the reduction of harm to people.**

AUTOSPRAY SYSTEMS

AutoSpray Systems is the UK's leading authority on drone-enabled application and aerial compliance. Founded in 2020, we have transitioned drone technology from a theoretical tool into a safe, fully compliant solution for UK agriculture, horticulture, forestry, and utilities.

We don't just operate drones; we build the frameworks that govern them. From securing the UK's first aerial pesticide approvals to pioneering large-scale environmental restoration projects using UK-first commercial BVLOS permissions, we bridge the gap between innovation and regulation.

Our mission is to establish drone application as a trusted, scalable, and regulated standard that reduces occupational harm while increasing operational efficiency.

- **Enabling Safe and Legal Use:**

We build training pathways and protocols that give pilots confidence and clients assurance, ensuring the safe and legal use of drones for spraying, spreading, and seeding.

- **Supporting Approvals:**

We provide evidence-led support to DEFRA, HSE, CRD, and CAA to secure product-specific approvals for drone applications of PPPs and biostimulants.

- **Raising Industry Standards:**

We're here to raise standards, not just keep up with them, so every operator, contractor, and grower has a clear path to safe, sustainable drone use.

Find out more at: https://autospraysystems.com/

Andy Sproson, COO

Andy is a recognised authority on unmanned aviation legislation. He secured the first UK approval for agricultural UAV operations and the first fully commercial BVLOS (Beyond Visual Line of Sight) permission for agriculture in the UK.

At AutoSpray Systems, Andy leads drone pesticide operations, including rigorous product testing, HSE permit applications, and efficacy protocols. His earlier career in emergency services honed his expertise in critical incident planning and resource management, which he now applies to high-stakes drone operations. We've helped develop UAV frameworks for over 1,000 organisations, the priority is safety, compliance, and building systems that work at scale.

Get in touch: Andy@autospraysystems.com

ANNEX A - FIGURES, TABLES, AND EVIDENCE INTEGRATION

Table 1 - All-Industry RIDDOR Non-Fatal Injuries by Accident Kind

Table 1.
Reported non-fatal injuries to employees by accident kind under RIDDOR, Great Britain, 2024/25 (provisional, selected categories).

Accident kind (RIDDOR classification)	Reported injuries
Slips, trips or falls on same level	18,051
Injured while handling, lifting or carrying	10,012
Struck by moving, flying or falling object	6,054
Falls from height	4,684
Strike against something fixed or stationary	2,189
Contact with moving machinery	2,088
Struck by moving vehicle	1,264
Exposure to or contact with harmful substance	564
Contact with electricity or electrical discharge	150

Interpretive note:
Several of the highest-volume injury categories arise from tasks that require repeated physical presence in hazardous environments and are therefore amenable to remote or stand-off substitution.

Table 2 - Worker Fatalities by Accident Kind (All Industries)

Table 2. Main kind - Worker fatalities by accident kind, Great Britain, 2024/25 provisional.

Accident kind	Fatalities
Falls from height	35
Struck by moving or falling object	18
Trapped by something collapsing or overturning	17
Struck by moving vehicle	14
Contact with moving machinery	13

Interpretive note:
Falls from height remains a large contributor to workplace fatalities, both of which are frequently linked to inspection, access, and monitoring tasks rather than core production alone.

Table 3 - Agriculture, Forestry and Fishing: Non-Fatal Injuries

Table 3. Non-fatal employee injuries reported under RIDDOR in Agriculture, Forestry and Fishing, 2024/25 provisional.

Accident kind	Reported injuries
Slips, trips or falls on same level	187
Struck by moving, flying or falling object	85
Injured by animal	80
Falls from height	79
Handling, lifting or carrying	71
Exposure to or contact with harmful substance	10

Interpretive note for Table 3:
The injury profile reflects routine operational exposure rather than exceptional events. Drone substitution targets these same routine tasks.

Table 4 - Construction: Non-Fatal Injuries

Table 4. Non-fatal employee injuries reported under RIDDOR in Construction, 2024/25 provisional.

Accident kind	Reported injuries
Slips, trips or falls on same level	943
Falls from height	736
Handling, lifting or carrying	632
Struck by moving or falling object	453
Contact with moving machinery	252

Interpretive note:
Falls from height remain both a high-frequency and high-severity risk, making construction one of the clearest cases for net risk-positive drone substitution.

Table 5 - Utilities (Water, Waste): Non-Fatal Injuries

Table 5. Non-fatal employee injuries reported under RIDDOR in Utilities-related sectors, 2024/25 provisional.

Accident kind	Reported injuries
Slips, trips or falls on same level	619
Handling, lifting or carrying	413
Struck by moving or falling object	218
Falls from height	198
Struck by moving vehicle	77
Contact with moving machinery	64
Exposure to or contact with harmful substance	16