

ANNUAL CONFERENCE

18 APRIL 2024

GRAHAM BROWN, CHAIRMAN

ANNE-LISE SCAILLIEREZ, CEO



ANNUAL CONFERENCE AGENDA

1.30pm

Welcome & ARPAS-UK update

Graham Brown, Chair, ARPAS-UK | Anne-Lise Scaillierez, CEO, ARPAS-UK

DfT Future of Flight Action Plan update – Jenny Ward, Deputy Director of Future of Aviation in the Department of Transport

Update with the CAA. Atypical, DISCO and AOB – Kevin Woolsey, Head of RPAS Systems | Callum Holland, RPAS Sector Lead (Applications) | Ed Fitzpatrick, Regulatory Innovation Specialist.

3.00pm

Break & Networking

3.30pm

Members' Panel: sharing their stories and operational experiences

Andrew Richman, project Manager in Geomatics at the Environment Agency | Adrian Wilkinson, Managing Director at Land & Minerals Consulting, drone operator and chartered geologist | Rebecca Jones, CEO, Iprosurv, RAE | Rupert Dent, Managing Director, Bridgeway Aerial, Operator

Mobile Networks as BVLOS Enabler

Dave Pankhurst, Director of Drones at BT | Ed Hunter, Senior Product Manager – Drone Solutions BT

OSC Success Stories: Quantification of ground risk for Overflight ; flying 30 km BVLOS

Rowley Cory-Wright, Director at HEXCAM

BVLOS SIG and Risk Quantification Update

Aleks Kowalski, Director, ARPAS-UK

Closing remarks: ARPAS-UK

5.00pm

Networking





JOIN OUR SLIDO AT

www.SLIDO.COM

#10123045

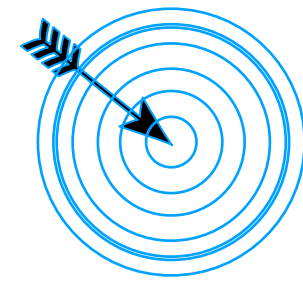


THE COLLECTIVE VOICE FOR THE UK DRONE INDUSTRY

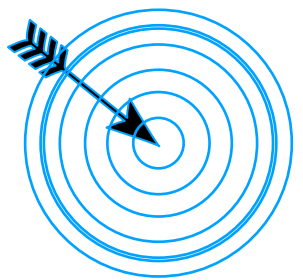
- Not for profit trade association
- A community of members
- Founded in **2013**
- ~ **4730** followers on LinkedIn
- ~ **5745** followers on Twitter
- Sphere of influence, engaging in **key activities covering government, industry and education.**



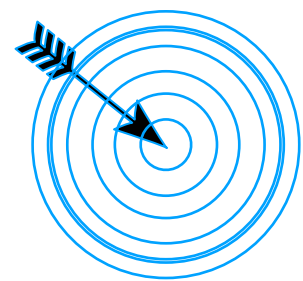
OUR PRIORITIES TO SUPPORT MARKET GROWTH



PROPORTIONATE REGULATIONS AND STANDARDS FOR THE “HERE AND NOW”



USING EDUCATION TO ACCELERATE THE SAFE AND PROFESSIONAL ADOPTION OF DRONES BY INDUSTRY.

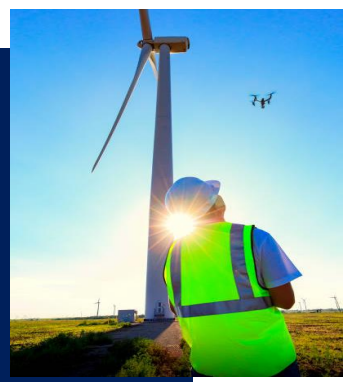


ENABLING THE FUTURE: CONDUIT FOR FUTURE-FACING ISSUES, PUSHING THE BOUNDARIES

Our actions in 2023 to promote proportionate regulations and standards for the “Here and Now”



- Responded to **6 formal consultations** by the CAA or DfT this year!
- All responses are shaped by comments from SIGs and submissions are made available to members
- Regulation Special Interest Group **REG-SIG** since Jan'23
- Representation in **key committees** and dialogue with all parties
- **7 webinars** or speaker notes specifically on regulations
- Contribution to **BSI standard activities**: vocabulary, standards as MoC to UK SORA



Representation of the RPAS community in key government and industry committees

- **ACOG** Airspace Change Organising Group
- **AMS** Airspace Modernisation Strategy (CAA)
- **Aviation Council** represented via GA4Biz
- **BSI** The BSI Group for British Standards
- **BVLOS Operations Forum** led by NATS
- **CHIRP**
- **DIAG** Drone Industry Action Group led by DSIT
- **DSIT** Department for Science, Innovation, Technology
- **EC WG** Electronic Conspicuity Working Group (CAA)
- **ECITB**, Engineering Construction Industry Training Board
- **FAIWG** Future Airspace Industry Working Groups led by DfT, FFC, CAA, CPC
- **FSC** Finance and Services Forum (CAA)
- **Future of Flight Industry Group** Aviation Minister chair
- **GA4Business** (BBGA, BHA, AOPA & ARPAS-UK) with DfT and the CAA senior management
- **ICAMS** Industry Coordination- implementation of the AMS.
- **MAC** Mid Air Collision Challenge Group led by the CAA
- **NATMAC** National Air Traffic Management. Advisory Committee led by the CAA
- **NPCC Stakeholder Advisory Group**
- **RPAS Stakeholders' Forum** led by the CAA
- **SAC** Shared Airspace Council
- **SASIG**, forum for local authorities & other regional representatives
- **Westminster eForum**
- **YPO**, Government procurement framework

ARPAS-UK positions on regulations & standards

We support:

- ✓ The introduction of the **Atypical Air Environment** policy, as an incremental step to facilitate BVLOS operations in lower risk environment.
- ✓ The introduction of **Generic SORA or new PDRAs**, whatever the format is, for example for reduced separation from 3rd parties | BVLOS with airspace observers | BVLOS in atypical environment.
- ✓ More broadly: **standards** and standardised approach **to enable scale and repeatability**
- ✓ **Product technical requirements** to support safety cases of **more complex operations**
- ✓ Mandated **Electronic Conspicuity in specific zones** to enable BVLOS in more complex environments
- ✓ Incremental **Remote Pilot Competency requirements**, with more practical training and reflecting the operational needs for UAS rather than crewed pilots

And:

- ✓ **More resources for the CAA**
- ✓ **Clear, consistent and proportionate** policy guidance, with **one single point of truth** and accessible communication and tools – esp. specific category PDRA01 & OSC holders
- ✓ **Engagement** with the community

2023 ACTIONS “USING EDUCATION TO ACCELERATE THE SAFE & PROFESSIONAL ADOPTION OF DRONES BY INDUSTRY”

User cases and industry promotion

- Building a **library of use cases showcasing impact**: share your success stories!
- **Project EASE** with Ajuno
- **DroneX** and **GeoBusiness Drone Theatre**, and this year in November **Aerial Cities**: keynotes & speakers’ opportunities for members

Education

- **25 webinars altogether**, mostly with you members as speakers, on our YouTube channel
- More than **200 newsfeed** items on our website
- We disseminated **400+ job opportunities**
- **Mentoring project** with Brightside

Local government education activity

- Project **AAM4Gov** - Local government focused education videos
- **Local Government policy paper** with NPCC ongoing (To be released shortly)
- Drone Audit Working Group



Local Authority - Applications

Blue Light

Delivery of Health & Social Care

Real time traffic, infrastructure and events monitoring

Buildings and infrastructure inspections

Land use and environment surveys and digital mapping

Data gathering & enforcement



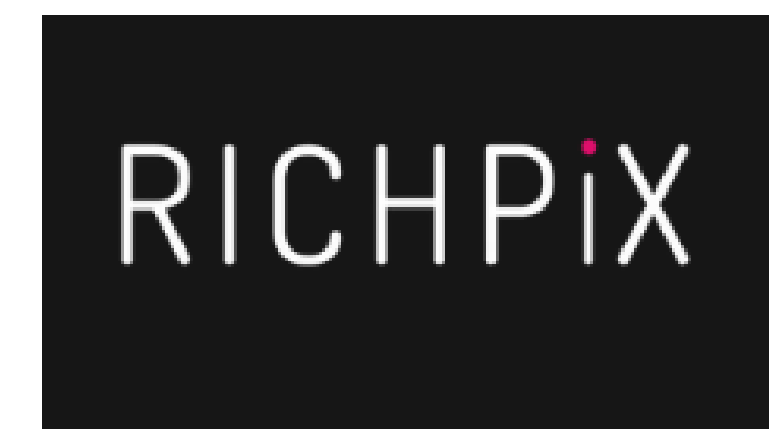
advancing sustainable aviation policy
on behalf of local communities

EDUCATION: WATCH OUR CPDs AND WEBINARS

Safe adoption of drones | Proportionate Regulations | Future-facing challenges |
By and for members, but also available to the public



The Technology Partnership



AND MORE WEBINARS TO COME THIS YEAR: WATCH THE BREADTH OF TOPICS WE EMBRACE



Ministry
of Defence



WORKING ON OUR EDUCATION STRATEGY



Adopting a World Class Approach to RPAS Flight, Operations and Technical Training



The UK's future competitiveness in the RPAS sector depends on its future professional population and the skills they accrue. Applying the many lessons the UK's Central Flying School and the aerospace education sector has taught us about best practise in flight training, operations and technical skills will enable us create careers, raise standards and secure the UK's place on a global stage.

Levels >>>

Literature
Ground School
Practical Instruction
Experience Building
Tests, Exams, Qualifications

Basic >



Professional >



Advanced >



Specialist & Applied



Curriculums >>>

A range of modules designed to be age and experience relevant whilst aligning with curriculums in support of the future needs of the sector.

Schools >



FE & Apprenticeships >



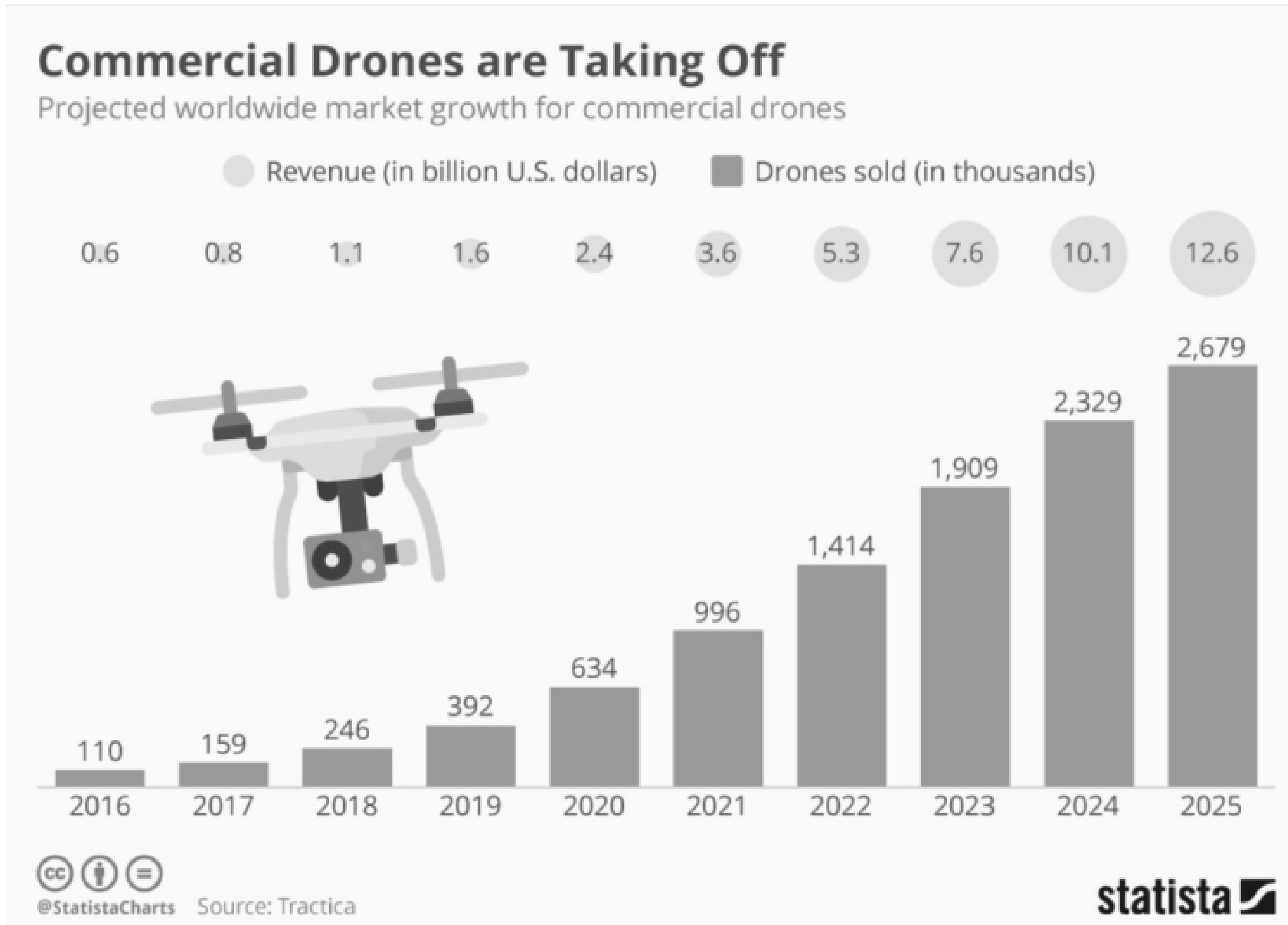
HE & Universities >



Industry-led



The Market and growth potential



RPAS deployment is set to grow in scope and scale. This multi-\$Bn global industry will provide products and services to numerous sectors and will also serve as a pioneer for the global aerospace sector.

Whilst the sale of aircraft and equipment is of primary and material value, the industry will also deliver significant value from its supply chain and from the range of services provided.

RPAS solutions will further deliver significant value, benefit and capability to numerous other organisations and industries.

Use Cases

The drone industry has diversified its applications significantly in recent years, touching numerous sectors with innovative use cases.

1. Agriculture
 2. Construction
 3. Energy
 4. Forestry and Environmental Monitoring
 5. Insurance
 6. Law Enforcement and Public Safety
 7. Logistics and Delivery
 8. Media and Entertainment
 9. Mining
 10. Real Estate
 11. Telecommunications
 12. Disaster Management
- ...and many more...

Do you have a use case?



If your company has an interesting use case that you'd like to get published in the **Drones in Action Report** then simply follow the steps below.

1

Follow the QR code on the left or go to:
www.arpas.uk/drones-in-action-report-january-2024/

2

Fill out the survey form with all the details regarding the use case.

3

Once we receive your use case, we will review it and will be in touch via email to confirm its publication!



Scan me



Use Cases

- Medical Cargo Delivery
- Last Mile Delivery
- Middle Mile Logistics
- Aerial Infrastructure Inspection
- Emergency Fast Response
- Local Aerial Surveying
- Passenger Airport Shuttle
- Urban Passenger Transportation
- Regional Passenger Transportation

Huw Ross



Use Cases

ARPAS-UK is collecting use cases which focus on promoting end user adoption.

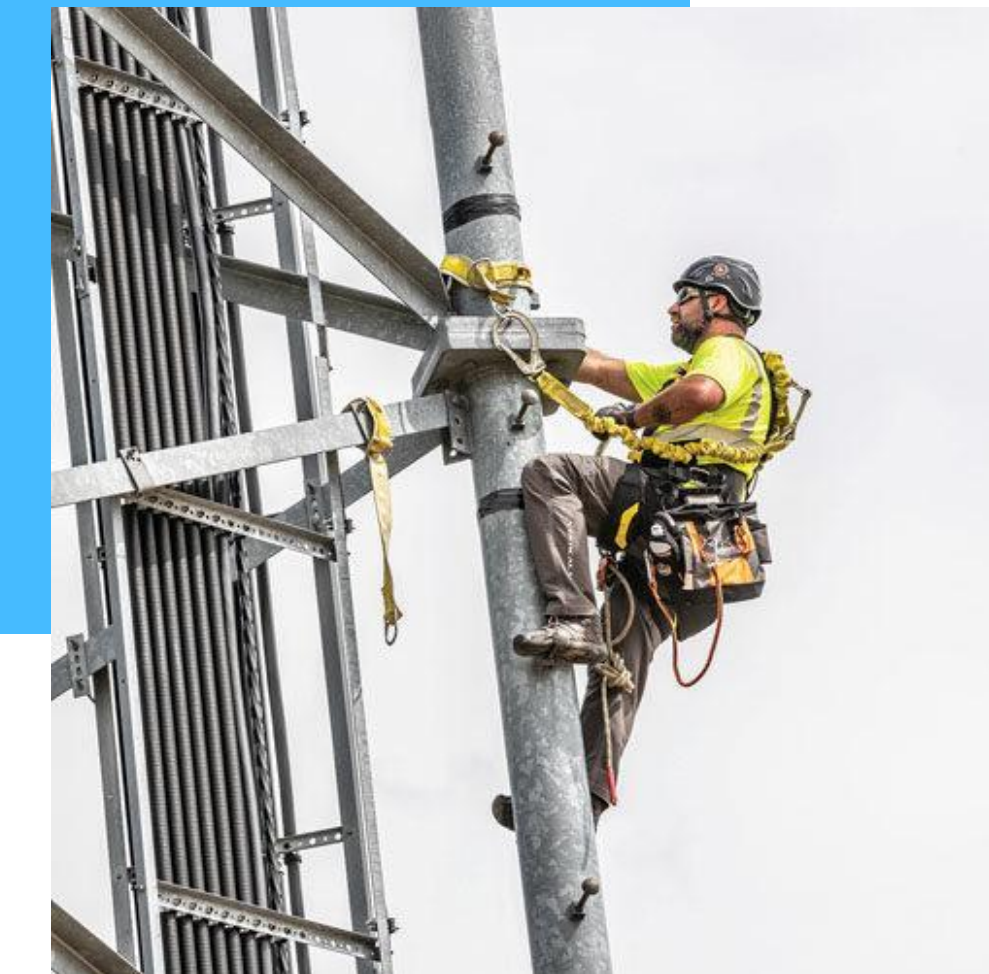
This will be achieved through:

- **Simple language-** Get rid of all the technical specs
- **Quantification-** What are the cold hard benefits of adopting drone use
- **Layout-** Problem, How a drone solved it

Mohammed Hasan



Drone Use



Hierarchy of Controls

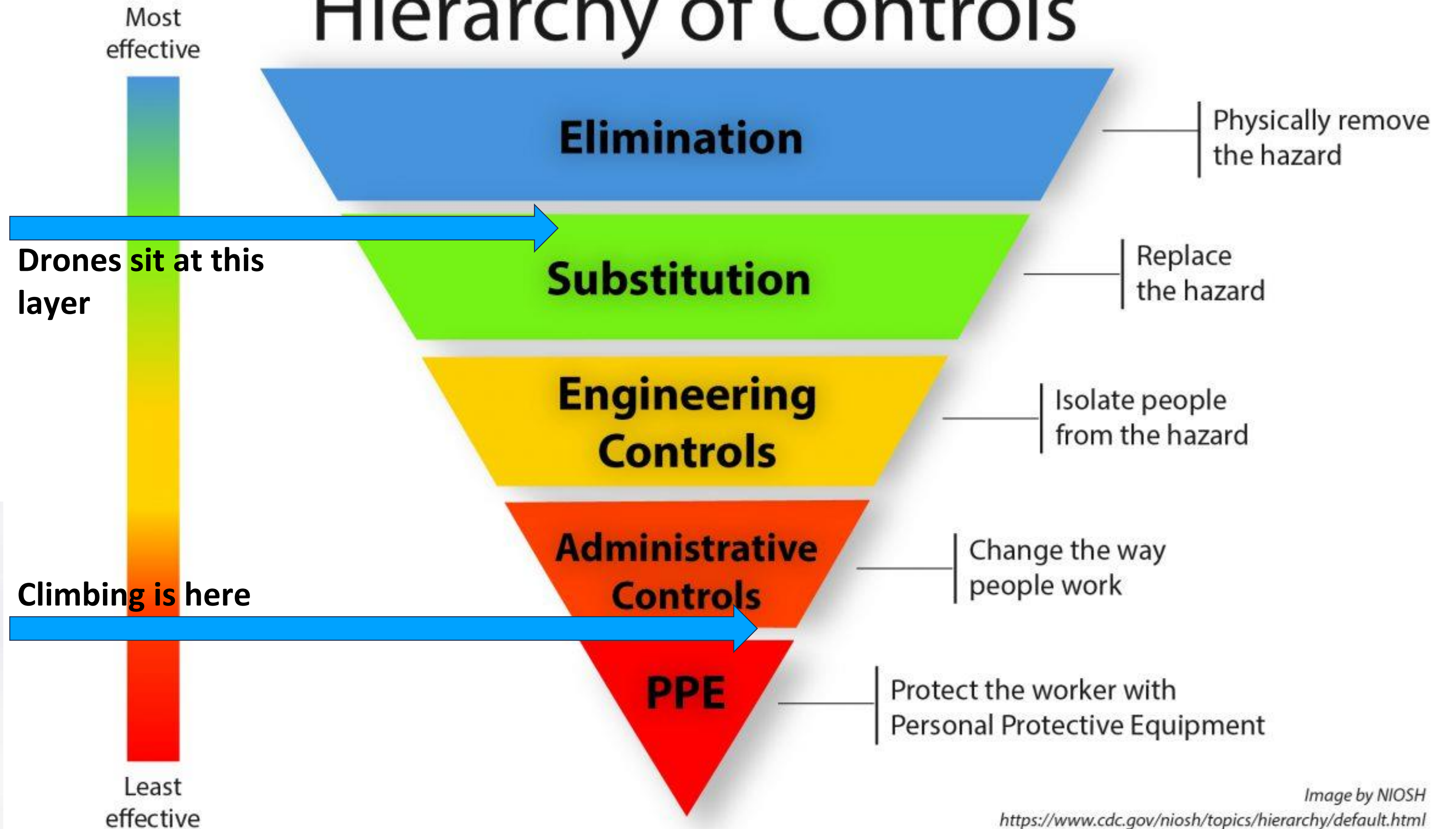


Image by NIOSH

<https://www.cdc.gov/niosh/topics/hierarchy/default.html>

Health and Safety Executive



What do I have to do?

- You must make sure work is properly planned, supervised and carried out by competent people with the skills, knowledge and experience to do the job. You must use the right type of equipment for working at height.

Control measures

- First assess the risks. Factors to weigh up include the height of the task, the duration and frequency, and the condition of the surface being worked on.
- Before working at height work through these simple steps:
 - Avoid work at height where it's reasonably practicable to do so
 - Where work at height cannot be easily avoided, prevent falls using either an existing place of work that is already safe or the right type of equipment
 - Minimise the distance and consequences of a fall, by using the right type of equipment where the risk cannot be eliminated

Dos and don'ts of working at height

Do...

- As much work as possible from the ground
- Ensure workers can get safely to and from where they work at height
- Take precautions when working on or near fragile surfaces
- Provide protection from falling objects

Don't...

- overreach on ladders or stepladders
- let anyone who is not competent (who doesn't have the skills, knowledge and experience to do the job) work at height

2023 ACTIONS “ENABLING THE FUTURE”



- Member of the Future Flight Industry Group FFIG led by DfT and the Aviation Minister: **FFIG Action Plan** stating the UK’s ambition for UAS and EVTOL released by DfT in March 2024
- Member of the Airspace Modernisation Stakeholders Group
- Set-up the BVLOS Special Interest Group **BVLOS-SIG**
- Co-organised the **BVLOS Risk Quantification training workshops** in 4 locations across the UK
- Contributed to **BVLOS FORUM** led by NATS
- **8 webinars** on future-facing issues
- Representing the industry’s interests at, FAI WG, ICAMS, SAC and with Local Government.





**That's all from us.
Any Questions?**

Contacts:

membership@arpas.uk

graham.brown@arpas.uk

Anne-lise.Scaillierez@arpas.uk



Future of Flight Action Plan

Government-Industry Statement of Intent

A third revolution in flight is underway, bringing new ways of flying that are safe, clean and cost-efficient, offering radically new ways to connect people and transport goods. This is not science fiction. It has already started.

The UK has a strong history in aviation innovation and a solid foundation in Future of Flight vehicles, both in Uncrewed Aircraft Systems (often called drones) and electric, Vertical Take-Off and Landing (eVTOL) vehicles (sometimes referred to as 'flying taxis'). Integrating these technologies at scale into our aviation system, transport networks and aerospace industry will see us as a world leader of this nascent sector.

We want to take this opportunity to create economic, environmental and social benefits – revolutionising the way we travel, deliver goods, and provide public services here in the UK. We want to seize the business opportunities and capitalise on the export potential of a new global industry. We want to harness Future of Flight technologies as a force for good and as a driver of growth in the UK.

Through the Future of Flight Industry Group (FFIG), we – Government and industry – have come together to provide leadership by setting out a clear vision for the future and the actions needed to make it a reality.

Success will not be straightforward. Integrating these technologies into our safe and long-established aviation system will require a collective and continuous effort to:

Fly at pace

Rapidly developing a policy framework and regulatory environment that enables trials and innovation, and effectively charts a safe path from demonstration to full-scale implementation.

Innovate

Developing, testing and deploying new technologies and services that are safe, secure and provide real economic and social benefits.

Promote

Building confidence in these new technologies among customers, citizens and investors.

Our organisations are committed to working with the FFIG to provide that collective and continuous effort and to achieve a flourishing UK Future of Flight sector.

Signed by



Anthony Browne MP
Minister for Aviation



Duncan Walker
CEO Skyports & FFIG Co-Chair

1 What do we mean by 'Future of Flight'?

This document presents a plan for the development and industrialisation of emerging aviation technologies and their integration into the existing civil aviation system, where they can provide material economic, environmental and social benefits.

For the purposes of this document, this refers to all Uncrewed Aircraft Systems (UAS) – more commonly known as drones – used for commercial purposes, and all electric, Vertical Take-Off and Landing vehicles (eVTOLs).



UAS



UAS may be controlled remotely through the use of navigation systems, ground based units, or through automation, and are expected over time to be able to fly autonomously. UAS are already being used to deliver a range of utility applications including inspection, surveillance, and cargo delivery. UAS currently excludes aircraft designed to carry passengers.



eVTOL



eVTOLs may be used to transport passengers and cargo within, across and between urban and rural areas. eVTOLs have the potential to perform operations currently undertaken by other air and land vehicles, and offer opportunities to scale up due to forecast¹ lower levels of noise and emissions and a lower price point than helicopters. Like drones, eVTOLs will be equipped with increasing levels of automation. They will be crewed initially and are expected, over time, to be able to fly autonomously without a pilot onboard. Advanced Air Mobility (AAM) is an umbrella term used to describe an air transport system using eVTOLs.

Existing aircraft classes that are transitioning to new propulsion types such as electric, hydrogen or hybrid (for example, piloted electric conventional take-off and landing (CTOL) aircraft) are not covered within the scope of this plan, nor is military aviation. Nevertheless, the consideration of all operations is essential to the regulator, the Civil Aviation Authority (CAA), and its wider, cross-cutting goal of safely and efficiently integrating new airspace users alongside existing ones. It is also anticipated that technologies supporting UAS and eVTOLs will benefit the future operation of other aircraft.

The consideration of all operations is essential to the regulator, the Civil Aviation Authority (CAA), and its wider, cross-cutting goal of safely and efficiently integrating new airspace users alongside existing ones.

2 Why a Future of Flight Action Plan?



The UK needs to have a clear plan today to reap the rewards of tomorrow – and that is where the Future of Flight Action Plan comes in. Only through an ambitious, far-sighted, action-oriented and collaborative approach between industry and Government that is sustained over a long-term horizon, can the UK become a global powerhouse in transformational aviation technologies that deliver commercial opportunities and benefits to society and the consumer.

Creating Commercial Opportunities

The UKRI Future Flight Challenge (FFC) – a joint Government-industry Programme backed by £125million of public investment – has shown that emerging aviation technologies can bring many benefits to businesses in the UK by enabling efficient and reliable delivery of services. UAS have the potential to reduce costs for businesses, deliver new services and reduce risk to human life by replacing or improving practices across industry and public services. AAM could boost urban, rural and regional connectivity and reduce congestion.

PwC estimates the socioeconomic benefit of AAM for the UK could be between £1 billion and £2 billion annually by 2040

Benefitting Society and the Consumer

These new methods of flying will boost the number of sustainable transport options for deliveries and passengers. They may also offer environmentally friendly journeys that evidence indicates will be quiet², and produce little or no air pollution and greenhouse gases. UAS could provide essential public services, including NHS transport and medical deliveries, search and rescue, monitoring the environment and new tools for the Police to tackle crime. AAM also has the potential to ease the demand for existing congested infrastructure, make journeys quicker and provide new connections and capacity, especially in hard-to-reach areas. A recent report by PwC estimates the socioeconomic benefit of AAM for the UK could be between £1 billion and £2 billion annually by 2040, including reduced costs, passenger time and carbon savings.³

Potential impacts of and societal concerns around Future of Flight solutions, including around safety, noise and privacy will also need to be understood and addressed, in a way that is consultative, evidence-based and consistent with wider UK policy. The FFC is investing £1.8 million in social science research through the Economic and Social Research Council, with a recent public dialogue acknowledging potential benefits of Future of Flight technologies but highlighting concerns that need to be mitigated, including governance, social and environmental impacts.⁴ Government and industry are continuing to collect evidence across different social groups, and we will remain alert to public appetite for Future of Flight technologies.



The UK Drone Association
<https://www.arpas.uk/>