

Test & Evaluation Annual Report 2025-2026

CAP 3266



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Civil Aviation Authority
Aviation House
Beehive Ring Road
Crawley
West Sussex
RH6 0YR

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Enquiries regarding the content of this publication should be addressed to:
testand.evaluationteam@caa.co.uk

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Introduction

The Test and Evaluation (T&E) Team has completed its second year supporting the Civil Aviation Authority's (CAA) mission of protecting people and enabling aerospace. Specifically the team has accomplished this through helping industry conduct testing safely, and by gathering data from innovative operations to inform new policy development.

Building on the foundations established in 2024-25, the team has moved from process-building to delivery at scale. Data collection is now a mature, business-as-usual function, the number and variety of operations providing data to the CAA has grown significantly, and the team has published its first major policy output in Civil Aviation Publication (CAP) 3145. The three strategic priority areas that defined year one continue to guide the team's work:

- 1. CAA-Driven Data and Intelligence Gathering** – The team has substantially expanded its data collection activity. There are Temporary Reserved Area (TRA) sandbox projects with Airspec, Amazon, Matternet, NPAS, Snowdonia Aerospace Centre and Wing, and 11 Atypical Air Environment (AAE) operators who have agreed to provide or are currently providing data. We've worked closely with internal policy teams across C2 (Command and Control) Link, Electronic Conspicuity (EC), Detect and Avoid (DAA), Ground Infrastructure (GI), and Unmanned Traffic Management (UTM), to ensure that operational data we're receiving is addressing their testing requirements and can be used in policy development. The team has also supported CAA work on airspace characterisation. Additionally, the team has strengthened its data analytics capability by establishing robust processes for storing, analysing, and generating insights. This includes the development of an in-house data analytical tool which in future will enable large-scale data processing, reducing turnaround times from weeks to days or even hours, significantly improving policy responsiveness.
- 2. Facilitation and Support of T&E Operations** – The team has continued to support industry operators in obtaining the necessary authorisations and approvals to conduct trials safely, providing technical and regulatory guidance across a range of projects and contributing to the CAA's broader strategic objectives.
- 3. Enabling Industry Testing** – The publication of CAP 3145, the UAS Operations at Test Sites Policy Concept, will help enable scalable test and evaluation activities at UK sites by providing industry with a streamlined route to authorisation that reduces operator burden and CAA processing time. Focused initially on SAIL (Specific Assurance and Integrity Level) 2 operations, the policy concept has already been

revised once to broaden its scope, and four test sites have now been pre-assessed and approved.

Moreover, the T&E team is working with Military Aviation Authority (MAA), Ministry of Defence (MOD), and industry with an aim to develop a guidance on dual use of UAS and associated technologies.

Through these efforts, the T&E Team has continued to strengthen the UK's ability to support aviation innovation while maintaining the highest safety standards. This report outlines the key achievements of the past year, the challenges encountered, and how these insights are shaping our priorities and approach going forward.

Annual Report

Data and intelligence gathering

Expanding the Data Collection Framework

Last year The Test & Evaluation (T&E) Team introduced the initial data collection process, consisting of five distinct stages. This has continued to be refined and scaled through feedback from industry partners and the Civil Aviation Authority (CAA) teams who are making the data requests.

The five stages of the data collection process are shown in the following image. From left to right: Data request, Data collection plan, Data collection, Data analysis, and Data reporting.

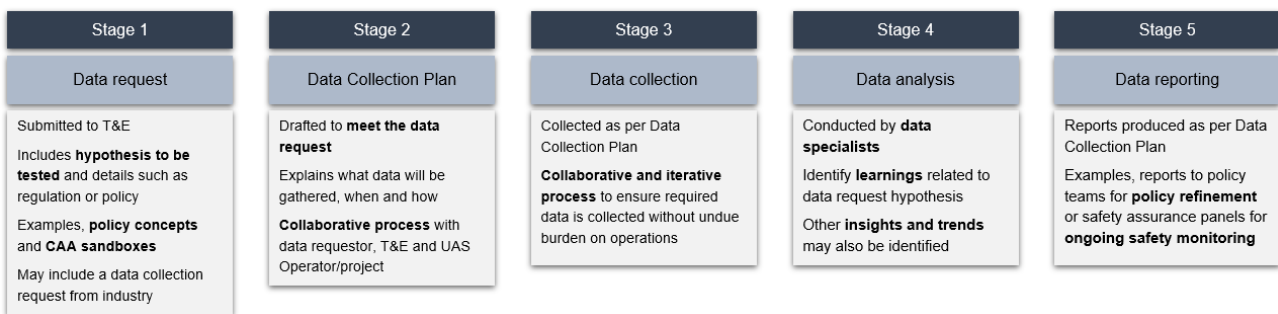


Figure 1: Test and Evaluation data collection process

Four areas were identified for improvement:

Data Collection Plans - Transparency of our role within the CAA is key to building collaborative relationships with industry partners. T&E do not carry out any oversight of operations, so when making data requests, it is important to be clear exactly what data is being collected, and how it will inform policy development.

Standardising data collection plans also helps identify where test requirements might be missing data and align requests/formats between projects. This simplifies processing of the data and makes relational analysis easier.

Aligning operations with policy requirements - Not every operation will provide data for all policy requirements, so identifying where they provide the most value reduces unnecessary burden on operators and the CAA.

Identifying when to engage with operators - Engagement on data collection with operators typically begins once authorisations have been secured. However, where appropriate, there may be opportunities to engage earlier, as the pathway to authorisation becomes clearer and closer to approval.

Establishing a robust data management system - As Test and Evaluation operations scale, so too will the volume and complexity of data we receive. Significant work this year went in to developing an internal data management framework and automated analysis tool, which allows T&E to manage, secure, and anonymise any data used for policy development. More detail is available in the “T&E Data Analytics Tool” section.

Establishing ways of working with CAA policy development teams

Significant work is ongoing within the CAA to develop policies that will support the UK’s approach to Beyond Visual Line of Sight (BVLOS) at scale through the Future ATM and ANS programme (F-ATM/ANS). This includes the publication of the Electronic Conspicuity (EC) Technical Concept of Operations (ConOps) (Civil Aviation Publication (CAP) 3140), Detect And Avoid (DAA) Policy Concept (CAP 3127) and Command and Control (C2) Link Policy Concept (CAP 3154). Real-world operational data will be key to the ongoing development and refinement of these policies and so establishing a way of working with the team was seen as a critical piece of work for this year. Although F-ATM/ANS has been the focus, this way of working help form a foundation of how T&E will work on wider policy development activity in future, and has already been used to gather additional testing requirements for Multiple Simultaneous Operations (MSO).

Prior to initial publication of Unmanned Aircraft System (UAS) Policy Concepts or ConOps, T&E and the policy development teams worked to establish initial testing requirements for each key area – this point alone represents a big step forward for the alignment of policy development and testing. These requirements are now informing the data collection process, and help determine which operators, operations, or specific datasets are most relevant to each policy. This ensures that real-world evidence is captured systematically and will be available to policy teams to refine their concepts.

Testing requirements will become more granular as policy matures, and data collection plans will be updated to reflect this.

The following diagram details the working process and interfaces between T&E and F-ATM/ANS. Starting top left the cycle being: Policy positions, Testing frameworks, Testing requirements definition documents, Data collection plans, Operator engagement, Receive data, Analyse data, Generate test results, Articulating policy position changes, Testing assurance, and Policy position incorporation. The key interfaces being data collection plan agreement and results interpretation and handover.

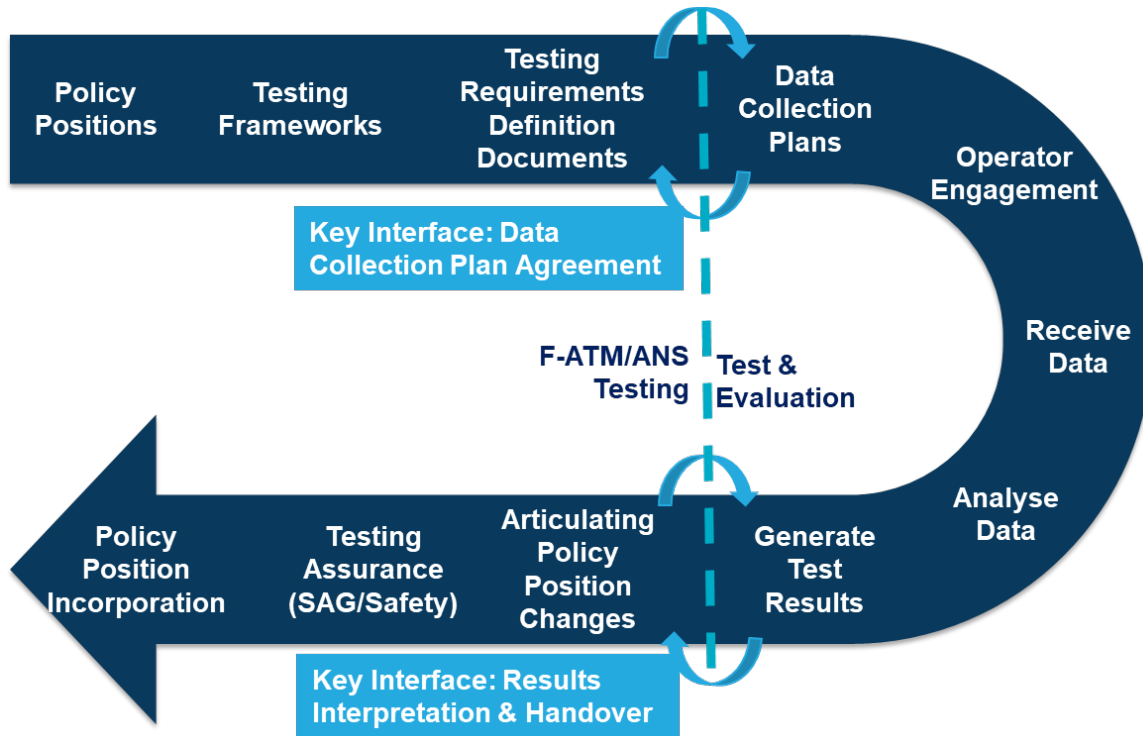
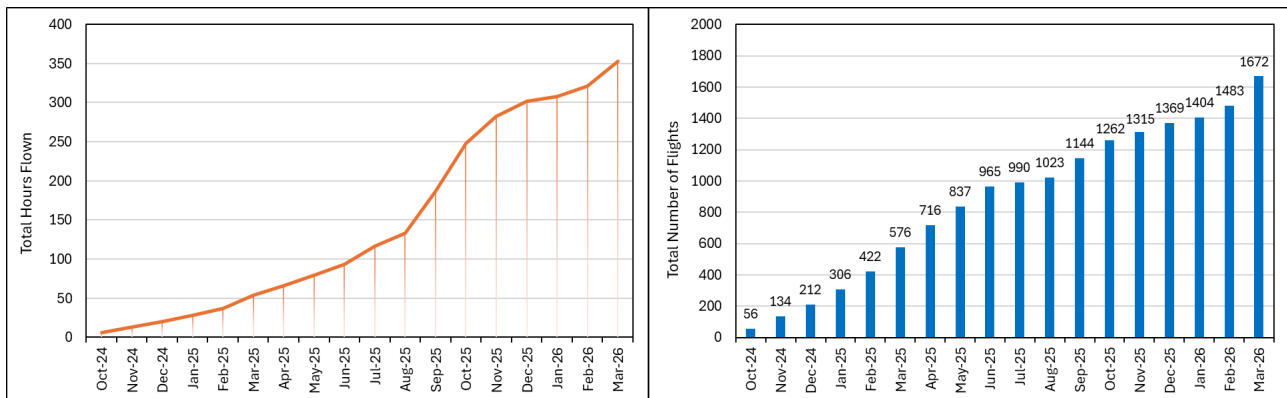


Figure 2: Test and Evaluation cycle during policy development, and how it aligns with the T&E data collection process (T&E and F-ATM/ANS interfaces)

Cumulative flight data

Since T&E started collecting data from operators in October 2024, cumulative flight hours have grown steadily to exceed 350 hours, totalling 1,672 flights by March 2026, with a notable acceleration through the autumn and winter of 2025. There is also an uptick in flight hours/numbers in February and March 2026 with 3 last-mile delivery operations starting to provide data.

The graphs below show cumulative hours flown, and cumulative number of flights for all projects reporting to T&E on a monthly basis, starting from October 2024, which shows the steady increase reaching just over 350 hours and 1,672 distinct flights by March 2026.



Figures 3 and 4: Total hours flown and total flight numbers since October 2024

BVLOS Sandbox operations

This year also marked a significant step for operations that are part of the CAA's BVLOS sandbox (under CAP 2533 and CAP 2616), with new authorisations secured for Airspection, National Police Air Services (NPAS), Amazon Prime Air, Matternet and Wing (with their collaborations with Apian). Each of these new authorisations align closely with government priorities for BVLOS enabling Infrastructure Inspection, Emergency Air Services, Last Mile Delivery, and National Health Service (NHS) Use.

As of March 2026, the CAA has received data on over 200 hours of BVLOS flights in both Class G and Class D airspace, totalling 1,097 flights. This represents a large volume of data – over 150GB – and with additional operators expected to begin flights in 2026, this necessitates a move away from existing data management and analysis techniques to something that is more scalable. This topic is discussed in more detail in the “T&E Data Analytics Tool” section.

The data contains insights on:

Insight	Policy Area
Performance of low-cost ground-based radar and cooperative detection systems	DAA, EC
Performance of airborne radar systems in detection of crewed aircraft	DAA
Automatic Dependent Surveillance-Broadcast (ADS-B) accuracy and performance in urban and non-urban environments	DAA, EC, Ground Infrastructure
Global Navigation Satellite System (GNSS) and overall position system performance	DAA, EC
Characterisation of airspace occupancy in offshore wind farm Transponder Mandatory Zones (TMZs)	Airspace Characterisation, Ground Infrastructure
C2 link performance using cellular and direct radio link	C2

Table 1: Insights from data supplied by BVLOS Sandbox projects and relevant policy development area

As an example, the following chart shows the horizontal and vertical error between aircraft reported position, and ADS-B reported position (separate GNSS device) for a single BVLOS flight. For this particular operator, average horizontal and vertical error across a month of operations were 10.34m and ± 6.19 ft respectively. *Note: The thresholds shown are indicative and do not represent a CAA regulatory or policy position.*

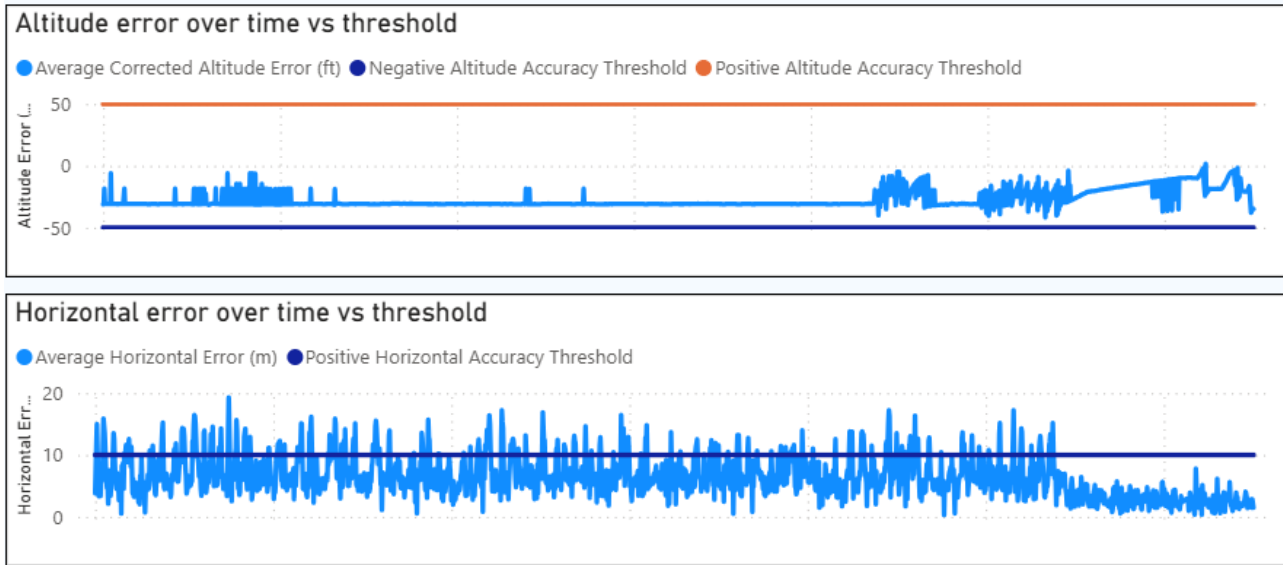


Figure 5: Horizontal and Vertical position error for a single BVLOS flight

Atypical Air Environment (AAE) operations

Collection of summary statistical data from AAE operations is now a business-as-usual process for T&E. There are currently 11 AAE operations authorised to operate in line with CAP 3040 v3, with T&E reporting monthly on statistics such as flight numbers/duration, performance of containment systems, GNSS accuracy, and crewed aviation detection.

UAS containment and crewed aviation detection/interaction are critical to the safety case for AAE operations, and therefore the CAA are measuring leading indicators and incident data.

- Leading indicators are UAS leaving the planned route and crewed aircraft operating near it.
- Incidents are UAS leaving the operating volume or crewed aircraft entering it.

Over the past 12 months T&E have collected data on 450+ flights, and 100+ flight hours, with only 1 instance of a UAS departing its expected route, other aviation entering the operator's monitoring volume 8 times, and 0 instances of UAS leaving, or crewed aviation entering the actual flight volumes of the operations. *Note: for leading indicators, a volume of airspace adjacent to the AAE is monitored to understand impact on other air users, but entry into this volume does not necessarily imply a safety risk.*

This data is used by the CAA Remotely Piloted Aircraft System (RPAS) safety assurance panel to monitor safety of AAE operations, and will be used to update the policy in future. It has already been used to expand the policy concept (CAP 3040) in November 2025 to include annexes that provide increased guidance to operators looking to utilise the concept (for example smoothing methodologies, railway infrastructure, windfarm infrastructure, defining operational volumes).

The following chart details the Atypical Air Environment flight totals (label) and flight hours (bar height) per month from April 2025 to March 2026. The line represents cumulative

flight hours for the same period, reaching almost 120 hours by end of March 2026. The three months with the most flight time were September 2025, October 2025, and March 2026.

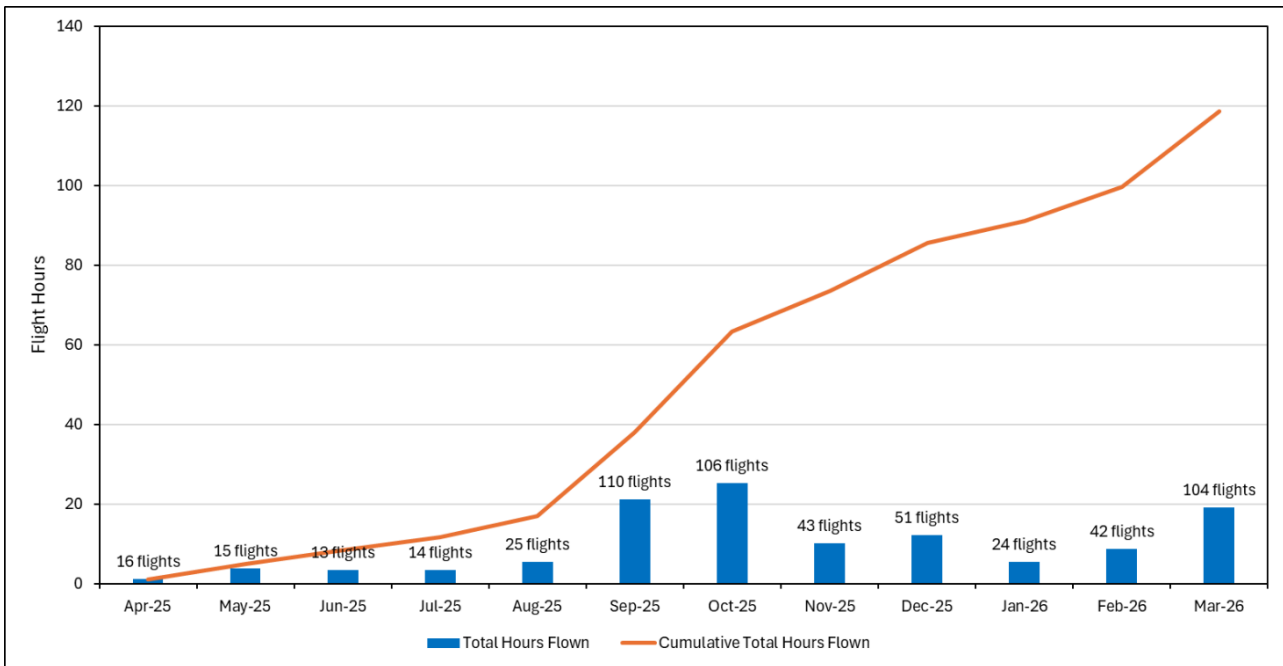


Figure 6: Flights and flight hours for AAE operations by month for 2025/2026

These metrics are reported internally on a monthly basis to senior leaders and relevant policy leads, and are used to establish how changes to the policy have impacted both safety, and the operations of other air users. Continued data collection is therefore critical to support further AAE policy development.

T&E Data Analytics Tool

As part of ongoing process improvement, the team has developed a bespoke data analytics tool capable of ingesting complex datasets from a range of different operations and automatically performing data cleaning, database ingestion, and anonymisation. Developed proactively ahead of the large volumes of operational data expected as sandbox projects and other BVLOS operations mature, the tool ensures the CAA's analytical infrastructure is ready to scale before it is needed rather than in response to demand.

Beyond data management, the tool supports the development and deployment of analytical pipelines that can be applied to incoming data and re-run against existing datasets to generate new insights as analytical requirements evolve. Pipelines have already been developed on existing trial data, initially focussing on analysis of ADS-B positional accuracy and onboard navigation system performance. The tool has also informed how the team approaches data collection planning more broadly. By defining how data will be ingested and processed, the team can now specify precise formats and structures when requesting data from operators, improving consistency and reducing

processing overhead. It also provides traceable, long-term data storage, which will allow the team to provide evidence-based input to CAA policy development as the dataset matures.

Expanding the team

To support the growing demands of the data function, the team has expanded with the addition of a T&E Lead and a T&E Principal Data Scientist. The T&E Lead is responsible for aligning team activities with CAA and wider Department for Transport (DfT) objectives, as well as owning working relationships with data providers. The T&E Principal Data Scientist focuses on the continuous improvement of data ingestion, analysis, and reporting. Together, these additions strengthen the team's capacity to enhance its analytical capabilities while improving the data quality, standards, and governance that underpin regulatory confidence.

Facilitation and support of T&E operations

In 2024-25, the T&E Team's facilitation work was focused on supporting the CAA's Strategic Objective 1 (SO1): the demonstration of BVLOS UAS operations in non-segregated airspace. As the sector matures, the focus is shifting from demonstration to enabling routine BVLOS drone operations for key government priority use cases including the NHS, emergency services, infrastructure surveying and commercial delivery operations.

Although not a core function of T&E, facilitation of trials is delivered in close collaboration with other CAA teams, including the Innovation Advisory Service (IAS), which provides dedicated pre-application advisory support to operators, and the BVLOS Facilitation Team, a new function stood up to provide technical subject matter expertise in developing complex airspace solutions currently required for BVLOS. Tighter working across these teams has been a deliberate priority this year, with the shared goal of smoothing operator experience and reducing time to operations.

The team has supported a range of operators in helping to identify the right regulatory pathway for their operations, including those looking to expand existing activities into new phases of operation, such as the transition to multiple simultaneous operations (MSO). Operators including Amazon and Wing are examples of where the T&E Team has worked closely to facilitate flight activity, supporting the authorisation process while ensuring that trial data provides value to the CAA's policy development work, as well as wider regulatory areas such as Human Factors and Environmental Research.

Enabling industry testing

Launch of the Pre-Approved Test Site Policy Concept (CAP 3145)

A central achievement of 2025-26 has been the publication of CAP 3145, the UAS Operations at Test Sites Policy Concept. The document establishes a framework for the CAA to pre-assess test sites, agreeing ground and air risk profiles for each location once. UAS Operators can then draw on those pre-agreed assessments when making their own Operational Authorisation (OA) applications via UK Specific Operations Risk Assessment (SORA), removing a significant portion of the individual risk assessment burden and reducing processing time for both operators and the CAA.

The development of the Test Site Policy Concept provides a number of strategic, operational, and regulatory benefits to the UK UAS ecosystem:

Streamlines the Operational Authorisation process - Operators can utilise pre-assessed test site evidence within their UK SORA applications, reducing duplication and simplifying parts of the Operational Authorisation process. This improves regulatory efficiency while maintaining appropriate safety assurance.

Supports UK-based research, development and manufacturing - Many UAS developers currently design UAS in the UK but conduct testing overseas due to limited domestic capability. CAP 3145 helps establish accessible UK-based test environments, strengthening national aerospace capability and supporting inward investment and export opportunities.

Maintains safety while improving agility - The concept does not reduce safety standards. Instead, it introduces a more efficient mechanism to demonstrate compliance through pre-assessed environments and standardised evidence. Safety outcomes remain aligned with UK SORA principles and existing regulatory expectations.

Improves access to specialist infrastructure - Pre-assessed test sites provide operators with access to suitable airspace, ground infrastructure, operational procedures, and safety mitigations that may otherwise be difficult or costly to establish independently, especially for small and medium sized enterprises (SME).

Creates a scalable framework for future UAS operations - CAP 3145 establishes foundational processes and governance that can evolve alongside the maturity of the UAS sector, supporting increasingly complex operations and future commercial scaling.

Provides confidence to investors and operators - A recognised regulatory framework for testing and evaluation increases confidence for investors, manufacturers, and operators.

The initial policy concept focused on lower-risk operations, enabling sites to support UAS testing up to Specific Assurance and Integrity Level (SAIL) 2 for both BVLOS and Visual Line of Sight (VLOS) operations, with limits on aircraft size, speed, and operational

parameters. The policy also set clear boundaries on the types of airspace and environments that could be pre-assessed, reflecting a deliberately cautious starting point designed to build confidence in the framework before expanding its scope.

First published in July 2025, the policy concept was already revised to a second edition by November 2025, with the update bringing the dropping of articles within scope in response to industry demand. It also provided further flexibility by providing clarity that UAS operators using test sites may apply additional mitigations where appropriate, to reach the required SAIL level and further enhance safety. This rapid iteration showed the CAA's ability to develop and refine policy quickly based on real-world feedback and signals the intent to continue expanding the framework as operational experience grows.

The T&E Team is working closely with Military Aviation Authority (MAA), Ministry of Defence (MOD), and other organisations to define a clear, consistent regulatory pathway and decision framework for civil, military and dual use UAS testing. We aim to publish a guidance by the end of this year to cover complex T&E scenarios, including UA-UA Collision testing, Flight Termination System testing and incorporation of Light UAS Certificate (LUC) enabled testing.

CAA pre-assessed test sites

Four sites have now been pre-assessed, covering both BVLOS and VLOS operations:

- National Drone Hub (Predannack)
- Snowdonia Aerospace Centre (Llanbedr)
- Drone Test and Development Centre (Westcott)
- Drone Certification Agency (Portland)

Lessons learned and future evolution

The rapid development of CAP 3145 during 2025–26 has established a working model for CAA T&E policy. Below are the key takeaways from this process and how they guide the next year's work:

Adapting policy quickly - The 4-month revision cycle showed that the CAA can update policy quickly to match industry needs.

Starting with a safe baseline - By focusing on SAIL 2 operations and specific limits first, we used a proven safety foundation. This lets the CAA verify how the policy works before moving to more complex operations.

Listening to operators - Changes to the policy came directly from what operators told us about what they needed.

Using real-world data - As operators utilise the pre-assessed test sites, the T&E Team intends to collect operational data to understand the real-world application of the policy. This includes monitoring:

- Flight profiles and environmental interactions (for example with other air users).

- Performance of navigation systems.
- Where available: Electronic Conspicuity, C2 link, and Ground infrastructure performance.

Conclusion

The second year of the T&E Team has been one of significant progress. Data collection has matured into a structured, scalable programme, with over 350 hours and 1,672 flights of operational data now actively informing CAA policy development. Working relationships with internal policy teams have been formalised, the team has grown with new capability in data science and transport innovation, and the publication of CAP 3145 has given industry a clear, streamlined route to authorisations at pre-assessed test sites.

Looking ahead, data volumes are expected to rise substantially as additional operators begin flying and existing operations expand, providing a richer evidence base across multiple policy areas. However, we are aware that existing projects may not satisfy all data requirements the CAA have, and so T&E will continue to engage with industry partners to close these gaps.

Finally, the data analytics tool will continue to evolve alongside the growth in data, and the test site framework will see further development, with additional sites expected.

ANNEX A

Abbreviations

Abbreviations	
AAE	Atypical Air Environment
ADS-B	Automatic Dependent Surveillance - Broadcast
AMS	Airspace Modernisation Strategy
ANS	Air Navigation Services
ATM	Air Traffic Management
BVLOS	Beyond Visual Line of Sight
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
ConOps	Concept of Operations
C2	Command and Control
DAA	Detect and avoid
DfT	Department for Transport
EC	Electronic Conspicuity
F-ATM/ANS	Future Air Traffic Management/Air Navigation Services
GI	Ground Infrastructure
GNSS	Global Navigation Satellite System
IAS	Innovation Advisory Service
LUC	Light UAS Certificate
MAA	Military Aviation Authority
MOD	Ministry of Defence
MSO	Multiple Simultaneous Operations
NHS	National Health Service
OA	Operational Authorisation
RPAS	Remotely Piloted Aircraft System
SAIL	Specific Assurance and Integrity Level
SME	Small and Medium sized Enterprises
SORA	Specific Operations Risk Assessment
SO1	Strategic Objective 1
T&E	Test & Evaluation

Abbreviations	
TMZ	Transponder Mandatory Zone
TRA	Temporary Reserved Area
UAS	Unmanned Aircraft System
UK	United Kingdom
UTM	UAS Traffic Management
VLOS	Visual Line of Sight