AIRPROX OCCURRENCES

Conspicuity | Airprox Reports | Avoiding Collisions | Introducing GA/TAS

BACKGROUND INFORMATION

EASA

Identifies collisions involving small aircraft as one of the main safety concerns.

Promotes the adoption of interoperable electronic conspicuity (EC) systems through the iConspicuity initiative.

Supports low-cost conspicuity systems, such as ADS-L, for General Aviation aircraft.

Notes that compatibility challenges remain among systems due to the fragmentation of EC technologies.

Electronic Conspicuity is required in certain regulated airspace (e.g. U-airspace).

ILT (Netherlands)

ILT signed the iConspicuity declaration in April 2025, supporting wider adoption of EC in the Netherlands.

Pilots can improve their EC by upgrading an existing Mode S transponder to include ADS-B Out. If no EC equipment is installed, pilots can purchase an appropriate device. Traffic information can be displayed using dedicated screens or low-cost alternatives such as tablet or smartphone applications.

iConspicuity enables faster incident analysis, and allows aircraft to be located more quickly in emergency situations.

iConspicuity Systems

Equipping GA aircraft with iConspicuity systems is a key step in reducing the risk of mid-air collisions involving light, non-commercial aircraft.

Traditional "See and Avoid" practices remain essential; however, their limitations in poor visibility, high workload or distraction underline the need for electronic support.

Links:

EASA iConspicuity

ILT Nieuws

Preventing Mid-Air Collisions

An AIRPROX is a situation where the distance between aircraft and their relative positions and speed are such that safety may be compromised. The purpose of this safety brief is to:

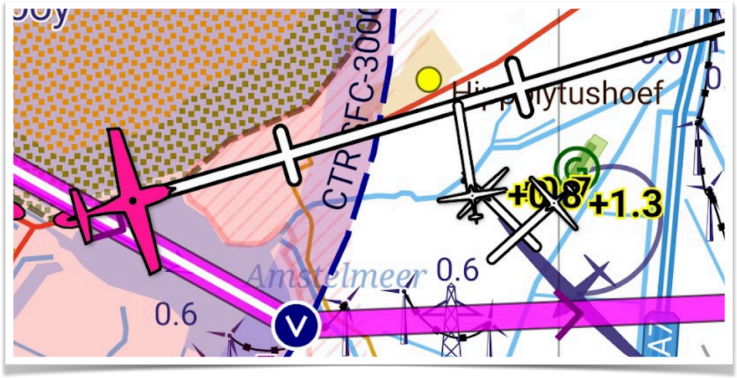
- Increase pilot awareness of conspicuity challenges in our flying environment.
- Identify practical actions to improve "see and avoid" capability.
- Introduce and describe GA/TAS Conspicuity Device as an additional and affordable electronic means of traffic awareness.

General Aviation Conspicuity

Conspicuity refers to how easily an aircraft can be **seen, detected, and avoided** by other airspace users. In the modern GA environment, this means:

- **Visual Conspicuity:** paint color scheme, anti-collision lights, lookout
- **Electronic Conspicuity** (EC): via devices that transmit and/or receive traffic information

Despite good lookout practices, physical limitations, aircraft blind spots, lighting conditions, and traffic density can lead to reduced chances of visually detecting conflicting aircraft. EC devices supplement the lookout, providing earlier warning.



GA/TAS Electronic Conspicuity: better visibility of other airspace users

Airprox Reports

Based on observations and reported data, the most common contributing factors to airprox events include:

- Reduced visual detection due to sun glare or low visibility.
- High-workload phases of flight, such as circuit, navigation training, and joining procedures.
- Mixed traffic environments, including diverse GA aircraft, gliders, paragliders, hang gliders, and drones.
- Lack of clear radio communications regarding aircraft position and intentions.
- ATC limitations, including radar coverage gaps and the reduced or absent traffic information services.
- Incompatibility between different EC protocols in use.

Just Culture

Fostering openness, fairness, and continuous learning to strengthen our aviation safety.

The aim is to learn from previous occurrences and to encourage pilots to openly and freely share essential safety related information.

Thank you for your reports!

Karina van Twisk
FSO AeroClub Maritime


Cessna T303 Crusader: cruise speed 190 kts

Airprox in an Uncontrolled Airspace

On a VFR flight from EDRK to EHLE at a cruising altitude of 2,200 ft AGL within Class G airspace, PH-DHB experienced a airprox with another VFR aircraft, according to data retrieved by our club's FSO from ADS-B Exchange the conflicting aircraft with registration D-ITOL was a Cessna T303 Crusader. The incident occurred at location: N514123 E0065709. The conflicting aircraft crossed from west to east at the same altitude, with an estimated horizontal separation of 100 meters. The PH-DHB executed an evasive manoeuvre, left turn, upon visual identification of the traffic. No traffic information was provided by Langen Information prior the event. Conflicting aircraft was not in contact with Langen Information at the time of the event. After the incident PH-DHB completed the flight safely.

Contributing Factors:

- ATC Limitations: radar coverage was degraded; Langen Information lost-intermittent radar contact. Conflicting aircraft not in contact with Langen Information and not visible or accounted for by the controller.
- Situational Awareness: lack of traffic information led to late visual acquisition. The proximity of the other aircraft was only detected visually at the last moment.
- Airspace Usage: high concentration of VFR traffic operating under similar constraints in uncontrolled airspace.
- Meteorological: lower than forecasted cloud base forced multiple VFR aircraft to operate at similar altitudes.

Avoiding Collisions

- ⋆ Maintain vigilant lookout at all times, particularly near Visual Reference Points (VRP), airfields, and narrow routes.
- ⋆ Plan your route and altitude strategically, considering offset from busy areas.
- ⋆ Monitor the appropriate radio frequencies on time and consistently.
- ⋆ Communicate clearly and concisely: accurate position reports allow other pilots and services to anticipate your movements.
- ⋆ Use EC devices to supplement visual lookout.
- ⋆ Plan for contingencies: be ready to delay joining circuits, perform go-arounds, or adjust your track in response to traffic.
- ⋆ Refer to official guidances: e.g. Safety Leaflets and Airspace Safety resources for additional tips.

Further Reading?

The EGAST provides some useful tips and thoughts regarding collision avoidance:

→ Safety Promotion Leaflet available at the club's website: AeroClubMaritime.com/Flight Safety.

Topics include: mid-air collision causes, limitations of the eye, and methods to reduce the risk.

Loss of Separation Incident on Approach Final Rwy 23 EHLE

During a traffic sequence while in the circuit, a loss of separation occurred between PH-DHB and PH-EFR (C152) due to traffic misidentification and a breakdown in sequencing. PH-EFR, operating in the right-hand traffic circuit for RWY 23, turned base and final without maintaining visual separation from PH-DHB, leading to a converging approach path.

The situation required immediate ATC intervention after PH-DHB reported that another aircraft was "on top". ATC instructed PH-EFR to avoid traffic below, turn right and maintain altitude. PH-DHB landed safely.

The conflict was resolved without damage or injury, but the situation was described by the pilot of PH-DHB as "too close for comfort."

Contributing Factors:

- Visual Misidentification: PH-EFR (No. 3) mistook PH-FLE (C172, No. 1) for PH-DHB (Aquila, No.2), causing a base turn at an unsafe point.
- Loss of Situational Awareness: PH-EFR failed to maintain visual contact with correct traffic and did not verify relative positions.
- Circuit Complexity: Extended downwinds and overlapping positions likely increased cognitive load for all pilots.
- Traffic Congestion: Three aircraft operating in close sequence at the same altitude and within the same circuit pattern.
- Late Correction: ATC only noticed after conflict was reported by PH-DHB and PH-EFR did not self-correct until prompted by ATC.

ADS-L Systems

A major advance has been the introduction of ADS-L (Automatic Dependent Surveillance-Light), a simplified and affordable version of ADS-B tailored for GA. It provides interoperable, GNSS-based position and speed data, enabling air-air and air-ground communication across a wide range of devices. Developed with EASA's support, ADS-L is designed for easy integration, often through software updates, and offers two options:

- ADS-L systems with direct radio line-of-sight capability, sometimes complemented by mobile network connectivity.
- ADS-L smartphone applications, particularly useful for flights below 2,500 ft AGL*.

*Depending on terrain topology, it is not unusual to receive transmissions at much higher altitudes, such as at around 10,000 ft AGL in the Alps.

Note: ADS-L uncertified equipment and tablet/phone based ADS-L applications, although classified as Electronic Flight Bags (EFBs), are not approved for operational use in CAT operations.

ADS-L devices are useful in any airspace, including in U-airspaces. They are lower-power, non-certified devices. They are not meant to replace transponders, which are necessary in some airspaces providing separation between aircraft (CTR or TMA). However, they improve situational awareness of surrounding traffic for both pilots and controllers.

Video iConspicuity Solutions for GA

GA/TAS (General Aviation Traffic Awareness System)

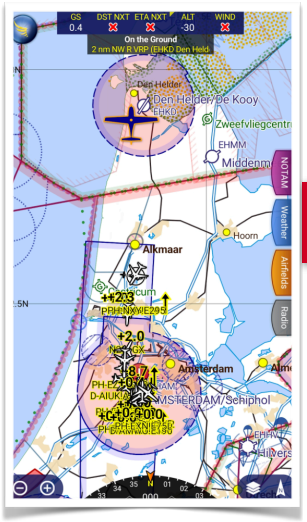
The **GA/TAS conspicuity device** designed by one of our club members, fits specifically to General Aviation pilots operating in environments where multiple protocols, such as OGN, Flarm, ADS-L and FANET are used. The system can transmit and receive multiple protocols simultaneously (with the exception of transmitting ADS-B); additionally ADS-B traffic can be received via mobile connection. All received traffic is sent to your EFB, such as SkyDemon, via the GDL90 protocol.

GA/TAS supports configurations for multiple aircraft, which can be selected through an easy-to-use web interface. The unit is powered by a Li-Ion battery and can be charged with a USB-C charger. The expected battery endurance is approximately 12 hours, although this depends on the desired configuration.

The sole purpose of this project is to enhance flight safety. For more information about the device, including instructions on how to build your own, I've included the following sites:

➡ GA/TAS Conspicuity Device

➡ GA/TAS Pulse Builder's Guide



Any aircraft that needs to be seen and to see others across multiple protocols can potentially use GA/TAS