EUROPEAN HANG GLIDING AND PARAGLIDING UNION

Position Paper - Electronic Conspicuity.

The EHPU consists of the hang gliding and paragliding associations of 19 European countries, and represents over 110,000 hang glider and paraglider pilots.

The EHPU is concerned that policy makers working on the issues surrounding UAVs, Electronic Conspicuity and U-Space are unaware of the extent and diversity of hang gliding and paragliding operations across Europe.

It appears to the members of the EHPU that there is a risk that a legal requirement to carry Electronic Conspicuity may be introduced for manned flight in the EU in the coming years, the EHPU presents the unique aspects of hang gliding and paragliding, which are:

- Hang gliders and paragliders make up a substantial portion of General Aviation (GA). In at least one EHPU member state, one quarter of GA operators are hang glider or paraglider pilots. In countries such as Germany and Switzerland, they represent the largest group of crewed airsports by far.

- Syndicate ownership is unknown in this field of aviation, and every hang glider and paraglider pilot owns at least one aircraft.

- Hang gliding and paragliding are inexpensive forms of flight. There is a strong second-hand market and an aircraft can be purchased for less than €1000.

- Hang gliders and paragliders are not limited to operating from airfields. They operate anywhere in the open FIR. They can be foot-launched from hills, windward cliffs and mountains. They can be towed into the air, either by a ground-based winch or by a microlight.

- Flights take place from ground level to cloudbase and unpowered flights of hundreds of km are regularly made.

- Hang gliders and paragliders do not fly in straight lines - flight plans are largely dictated by the ever-changing local meteorological conditions. Because of their ability to land in extremely confined areas, pilots can recover to soaring flight from extremely low altitudes, recoveries to cloudbase of several thousand metres are frequently made from just 100 metres above the ground.

- Because of their low speed, hang gliders and paragliders fly in close proximity to each other. It is not uncommon for 50 hang gliders and paragliders to be found in one thermal or soaring a ridge.

- Hang gliders and paragliders do not routinely carry radios nor have licences in place to talk to flight management ground stations.

- Hang glider and paraglider pilots fly in VMC using the principle of 'see and avoid', and it is well established that the greatest mid-air collision risk is another hang glider or paraglider. However, records show that these occurrences are very rare. Collisions between hang gliders or paragliders and other types are unknown.

At every opportunity, the EHPU has strongly put its position forward that mandating Electronic Conspicuity in the near or medium term would not work for hang gliders and paragliders, for the following reasons:

- There is no transponder or ADS-B device currently on the market that has been demonstrated to be fully compatible with cockpit-less aircraft such as hang gliders and paragliders.

- Electronic Conspicuity in its current form brings little or no benefit to the majority of hang gliders and paragliders. We fly in close proximity to other hang gliders and paragliders and maintain a good lookout and separation using 'see and avoid'.

- Using a screen instead of good lookout will increase the risk of mid-air collisions between hang gliders and paragliders. Screen use is increasing generally and should be resisted.

- Electronic Conspicuity broadcasts from gaggles of hang gliders and paragliders would cause signal saturation. Where a large group of pilots independently fly the same route, either following a mountain range or flying downwind from a common take off point, they are likely to form a curtain of signals between ground level and cloudbase, potentially creating a barrier in the sky for other users.

- Given the low speed of hang gliders and paragliders, Electronic Conspicuity provides no opportunity for the hang glider or paraglider pilot to take any action to avoid a collision with a faster moving aircraft.

As a result, the EHPU proposes the following:

(1) It has to be accepted that for hang gliders and paragliders, Electronic Conspicuity is entirely passive, i.e., the hang glider / paraglider pilot does not use it to avoid others, only to allow other types to avoid the hang glider / paraglider.

(2) Creating a legal requirement to carry an Electronic Conspicuity device that currently does not exist will completely ground the sport across Europe. There should therefore be no legal requirement to carry such a device until it is available on the market and established as being fully compatible with hang gliders and paragliders.

(3) Given that there are few benefits to hang glider and paraglider pilots other than to protect them from other users, such protection not having been needed previously, there should be a system of subsidy open to hang glider and paraglider pilots to assist them in purchasing such a device.

(4) The device must be battery powered, lightweight (200g maximum including batteries), have a duration at least 12 hours and be low cost.

The majority of HG and PG pilots carry cell phones.   Many already use their cell phones to run apps that provide flight information, navigation and real time position awareness. The EHPU therefore proposes the following:

1.   Use of cell phones as position source (GPS).

a) A device we already routinely carry: a mobile phone with internet connection.
b) There is no need to buy and install additional equipment.
c) Adapted to our culture and flight practices.
d) Can be easily fitted to our aircraft.
e) Cell phone connection at U-Space altitudes can be excellent, and sufficient even at higher altitudes.

f) ADS-B and Mode S have poor coverage below 500ft and are often plagued with antenna coverage and shadowing.

2. Using an app.

a) There are already apps available.
b) These apps make users visible to other traffic.
c) Users can see other traffic, however our primary system of collision avoidance with other manned types is see and avoid. If we use a screen to detect other hang gliders and paragliders instead of good lookout, it will increase the risk of mid-air collisions in many of the environments in which we fly.
d) An app should be capable of running in the "background" as many pilots already use their cell phone for running other functions during flight.

3. Requirements.

a) 'Inter-operability': everyone should see everyone.
b) Open cloud-based platform: aggregates all protocols and facilitates data exchange for all users.
c) Open API: third party developers can develop and publish traffic information to a common data platform.
d) Must make visible other transponder types, including FLARM, ADS-B, FANET and OGN trackers.
e) Interoperable: Open platform brings together, in a free and cooperative way, position data from different sources.

EHPU.