



January 2012

Impact of new and developing technology on Gliding competitions.

Author: Brian Spreckley

Current objective of IGC competitions according to Annex A.
To select the champion in each competition class on the basis of the **pilot's** performance in the tasks set;

Current developments and availability of situational awareness devices and in-cockpit graphical display will provide competitors in future gliding competitions with the ability to see all the other competing gliders

This discussion is intended to highlight the issues and consider if the IGC need to make changes to its competition rules in light of these developments.

Will new technology change gliding competition tactics?

Currently available cockpit displays displaying other competitors' situations are in their infancy both in the range they can "see" ahead and the information they display currently FLARM can give detailed real-time information of aircraft within a 3-10km radius.

This information is useful for monitoring the location and situation of nearby competitors but once Mode-S is mandatory or widely used details of gliders possibly up to a 50km radius will be readily available. ADS-B receiver boxes are already available to pull in MODE-S generated signals and deliver them to LX instruments and other gliding displays but unlike FLARM there is no stealth mode to enable pilots to make their own flights without being watched by anyone who has the technology.

Extremely large, high resolution, good daylight readable displays are already available, newly developed tactical software will provide a pilot with detailed and relevant information about fellow competitors and gaggles. There is no technological barrier to this happening, it is just a programming exercise that will become refined and more targeted so that within a couple of years pilots will have full positional / performance awareness of any group of competitors they are interested in.

- You need never loose track of the gaggle again
- You will be aware of gaggles / gliders around the start
- You can be alerted to gliders climbing well
- You will "see" all the gliders ahead at all times and how well they are doing.
- You will see your current task performance relative to your competitors
- You will see all final glides and be able to compare best routes back to the airfield.

Will Technology give everyone 40/20 vision?

All this information could be monitored by the "Team" on the ground and key tactical possibilities could be analysed by ground based software and experienced coaches. If your

"Team" has the resources and a good radio you can take critical decisions together or allow yourself to be guided through all the critical parts of the flight.

The questions we must ask ourselves are;

- Will the new technology become commonly used by competitors and teams?
- What are the safety issues, increased gagging/following?
- Will it be possible to use it effectively?
- Will it make our competitions fairer and more fun?
- Will it lead to a new generation of pilots who win by using others not by their own flights?

The IGC must consider whether the developing situation poses a threat to our competitions and if so what can we do to reduce it's impact.