

Discussion Paper for the IGC Plenary 2012

The need for a long-term reorganization of the FAI Classes

A Brief History of the FAI Glider Classes

In the 1950s, when the FAI gliding world championships started to be well established, the FAI had only 2 classes. Starting 1952 these were the Open and Two Seater classes, in 1958 the Two Seater class was replaced by the Standard class. This stayed the same for 20 years until in 1978 the 15m class was added. It then took another 19 years before the World Class was added in 1997. 4 years later, in 2001, two more classes, the Club and 18m classes, were added. In 2014 the 20m Two Seater class will be added and in 2015 the 13.5m class will replace the World Class, bringing the total up to 7 FAI glider classes.

All FAI classes with the exception of the Club class have been introduced as new design classes with the idea of advancing the development of new gliders in that particular class. As a result these classes normally require the latest generation equipment to compete successfully at the highest level. Only the Club class has been introduced as a legacy class with a handicap to give a broad range for earlier generation gliders a framework to still compete at the world/continental level. In practical terms all current FAI Club class gliders are earlier generation standard/15m class gliders that are not competitive anymore in these classes.

Even though we globally have had a declining number of active glider pilots and with it a decreasing market for new gliders for some time now we have managed to double the number of glider design classes over the last 15 years or so. This fragmentation is arguably not sustainable for glider manufacturers as far as new development is concerned. As witnessed in the Standard and 15m class there has been no new development for over 10 years now with the exception of the Diana 2 as a pure racing glider that commercially has been a failure. All current generation mainstream standard/15m class designs have been adapted for the 18m class, the leading class at the moment as far as development is concerned.

Hence all recent new single seat designs for FAI classes have either been in the Open class or the 18m class with some of the latest generation 18m designs available with 15m wing tips. Aside from notably better performance with very small compromises in handling and weight, the increasing trend to sustainers and self-launchers has favored the 18m class over the traditional standard/15m classes thanks to a much better wing loading range.

The 13.5m class is still developing but there have been quite a few designs over the last years, albeit probably more aimed at the recreational pilot. The 20m Two Seater class is essentially the IGC's recognition of the popularity of the Duo Discus and DG 1000/500 type gliders for advanced XC flying and competitions, with the Arcus being the recent evolution of these successful designs for even better performance, likely to lead future official competitions. Until another advanced 20m design emerges the 20m Two Seater World Championships will be an Arcus championship, the allowed inclusion of

handicaps on continental level should however allow for a more or less level playing field for all aforementioned widely used later generation 20m ships.

To sum it up, the 13.5m class is a hopeful bet at the potential for future development in this UL class, the standard and 15m classes are stagnant and have in the last few years only been updated by short-winged versions of the latest 18m ships, the 18m class is where a lot of development effort is centered at the moment due to its versatility for competition and recreational flying (including motorized versions) and the Open class has stayed around as a relatively small class due to costs and handling but still experiencing leading edge development as the traditional king of classes.

So where do we go from here? From a pilot's perspective it is great to have so many choices but there are less and less of us while the manufactures have to take bigger and bigger gambles when deciding on which glider type/class in a shrinking market should they focus their increasingly scarce resources on. With LS, Lange, LAK & AMS we have had several notable bankruptcies over the last 10 years or so. Pretty much all Polish glider manufacturers have gone through bankruptcies and reorganizations as well during the same time frame and LET has stopped manufacturing gliders altogether.

At the moment we have only 2 large glider manufacturers producing a range of world championship winning gliders, Alexander Schleicher and Schempp-Hirth, and even they can't offer a design for all the current FAI design classes. Even their latest designs try to move to a modular system that can bridge at least two classes and address various recreational needs: ASG 29 (15m/18m), ASH 31 Mi (18m/21m), Quintus/Antares (18m/20m/23m).

Aside from the big 2 we have only niche players left, some competing more, some less successfully at FAI championships with their latest designs: DG/LS, HpH, LAK, Lange & Jonkers. For UL/13.5m glider designs Pipistrel, Alisport and Windward are the leaders at the moment; hopefully they will use their expertise to develop advanced competition designs for the new 13.5m class.

As evidenced by the earlier statistics, in today's competitions we are increasingly heading towards handicapped classes outside of World Championship events due to the lack of sufficient pilots and gliders available for all FAI design classes. In reality in most countries the FAI design classes do not exist anymore as competition classes yet we are adding more FAI design classes even today. It may well happen that in the near future the FAI design classes will only be used as competition classes at the World Championship level; they will have ceased to exist as competition classes at almost any other competition level.

We then essentially end up in a situation where most glider designs are trying to bridge at least two design classes with all the inherent compromises to be economically viable while the classes they are trying to bridge really have ceased to exist as competition classes outside of World Championships!

It doesn't take much to come to the conclusion that this development is not desirable nor sustainable, especially for glider manufactures. Even on the sporting side it will become questionable: In most countries you might end up in a situation where you compete nationally in one of 2 or 3 handicapped glider performance based classes and if you make it into the top 5 or so you are almost guaranteed a spot

at the World Championships since you can then pick from 2 or 3 related FAI design classes out of the existing 7 to fly in, each with their guaranteed slots for each participating NAC...

The Status Quo

The current statistics for FAI Category 1 gliding competitions and IGC member country national gliding competitions indicate an increasing trend towards multi-class handicapped competitions replacing traditional FAI class based competitions due to the high number of FAI classes and limited suitable gliders and pilots available to field sufficient pilots for each FAI class.

Selected 2010 Competition Statistics

WGC 2010 Prievidza

Total: 27 countries, 106 participants

Club: 25 countries, 47 participants

Standard: 23 countries, 46 participants

World: 7 countries, 13 participants

Average team size (pilots): 3.9

WGC 2010 Szeged

Total: 33 countries, 143 participants

15m: 28 countries, 49 participants

18m: 30 countries, 51 participants

Open: 25 countries, 43 participants

Average team size (pilots): 4.3

WGCs 2010 Combined

Total: 34 countries, 249 participants

Average team size (pilots): 7.3

7 countries fielded teams in all WGC 2010 classes

16 countries fielded teams in all WGC 2010 classes ignoring World Class

0 classes had participation from all WGC 2010 participating countries

~39 countries are with 2010 scores in the OLC

58 countries are represented in the IGC

58.6% or 34 out of 58 IGC countries participated in the WGCs 2010

~3.4% or ~2 of 58 IGC countries have individual National Gliding Championships in all FAI classes

~17.2% or ~10 of 58 IGC countries have individual National Gliding Championships in all FAI classes except World Class

82.8% or 48 out of 58 IGC countries are not capable of fielding individual National Gliding Championships in all FAI classes ignoring the World Class, including World Class it is 96.6%.

Consequently most IGC member countries are combining classes using in almost all cases handicap systems, many of them homebrewn. If you add the 13.5m class as a replacement class for the World

Class you probably end up somewhere in-between above numbers assuming the 13.5m class will be at least a bit more popular than the World Class.

A large gliding country, the US, might soon join the group of IGC countries not capable of fielding individual National Gliding Championships in all FAI classes due to the increasing challenge of holding national championships with sufficient participation in all classes. In e.g. Argentina, a much smaller gliding community than the US, the rules require 15 participating pilots in a class to have a valid national championship; the last one for World Class had to be canceled due to not having sufficient pilots. The 2010 US Standard & Open Nationals had only 10 and 8 scoring US pilots.

All these numbers are not yet including the new 20m class that is being introduced in FAI Category 1 Championships, not considered are also any Junior and Feminine gliding championships.

FAI Continental Championships

Currently 2 continents have FAI Continental Championships: Europe has Continental Championships in all FAI classes; South America has Continental Championships with two or three handicapped classes.

South America started having continental championships only in 2008, the first continent outside Europe to do so. Because of the limited equipment available the South American continental championships can only be organized using two or three handicapped classes, the two events held until now have been using the homebrewn Argentinean handicap system under a FAI waiver. If we were to have Continental Championships in North America, Asia/Oceania and maybe even Africa at some point, we would likely end up in the same situation South America is in at the moment. The only continent capable of organizing non-handicapped Continental Championships using the traditional FAI classes is Europe; this is very unlikely to change in the foreseeable future.

On a side note, the South American continental championships really should be turned into Panamerican championships like it is happening now in other air sports (paragliding, aeromodelling) since North America is very unlikely to organize their own North American championships. We are really only talking of the US and Canada as potential participants at this point and there have already been participants from the US going to the South American continental championships as guest competitors.

A new development that requires addressing the limited FAI handicap range even for Continental Championships in Europe is the new 20m Two Seater Class which in its implementation by the IGC plenary in 2011 explicitly allows handicaps being used for these competitions except in World Championships.

National Championships

The vast majority of IGC member countries is currently not organizing individual National Gliding Championships using the traditional FAI classes but combine FAI classes using a handicap system or creating 2 or 3 performance based classes that sometimes overlap and are scored using local handicap systems.

OLC

The OLC, which is increasingly used for decentralized national and international competitions, also uses an extended handicap system to allow for the participation of any glider type, their handicaps are currently based on the German DAeC handicap system.

Recommendation for Bureau & Plenary

I would like to ask the bureau to put this topic as a focused discussion item onto the agenda of the 2012 plenary with the goal of subsequently tasking a group of experts (existing committee/working group or a newly established one) to analyze the developments in detail and involve the glider community at large as well as the manufacturers to come up with a more sustainable future design and competition class structure that could form the basis for a detailed proposal for presentation at the 2013 plenary.

Possible initial scenarios and items to consider

- Combined Standard/15m design class with a 2% handicap for Standard class gliders
- Elimination of the Standard or 15m class altogether
- Merging the Club, Standard and 15m class into one handicapped legacy class allowing max 15m wing span and open to new designs on a handicap basis (e.g. a 15m ASG 29 could compete using a handicap)
- Limiting the Club class to a maximum handicap (e.g. 1.04) and creating a similar “Super Club” handicapped class for any glider with a max 15m wing span and a higher handicap (e.g. 1.05 and above or with an overlap starting at 1.00)
- Considering a new Club class/Super Club class structure that allows the participation of older gliders with a wingspan of more than 15 meters

Involving the gliding public at large

I believe it is important to involve our key stake holders as much as possible in this process, particularly competition pilots of all levels as well as manufacturers, to ensure a successful outcome of this initiative.

Two ideas come to mind:

- To organize a symposium or open forum at e.g. the Aero in Friedrichshafen with almost all the key glider manufacturers present (another option could be the Deutscher Segelfliegertag). Similarly, to add the topic to the agenda of key national gliding conventions.
- To establish an annual Competition Pilot Poll similar to what is done annually in the US to get feedback from this important group of stake holders. This poll should also be used as a tool to field other topics of interest for the purpose of generating more structured and wider feedback on issues the IGC is considering or ought to be considering.

These are just some initial thoughts I tried to structure enough to make a case for adding the future FAI design and competition class structure as an important item to the 2012 IGC plenary agenda. The goal is to initiate the probably long and arduous process of developing a long term sustainable design and competition class structure for gliding.