

A CLASS

A trial of a new type of competition, held in Italy in May, might ultimately have an impact on the sport of gliding. Allan Arthurs and Mattia Rigamonti report from X-Italia 2016 in Varese

THE story starts with the first World Gliding Championship (WGC) for the FAI 13.5m Class, held in Lithuania in August 2015, in which the winner was Stefano Ghorzo of Italy. The contest was the topic of discussion at a subsequent meeting of the IGC (FAI Gliding Commission) held in Luxembourg, at which the representative for the Italian Aero Club (AeCI) put forward the view that the rules for the FAI 13.5m Class ought to be changed. The reason given was that if the rules remain largely a copy of those for the traditional FAI classes, with only a wingspan and wing area limit, then the new class is likely to be interpreted as little different to the old World Class and unlikely to succeed. With this in mind, the AeCI proposed radical changes intended to refresh and invigorate the class and make it more attractive to pilots, manufacturers and the media.

The primary proposed changes revolve around the fact that one of the key benefits of these lightweight airframes is that they provide an ideal platform for an electric

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↪ power-plant, which makes it capable of self-launching. The fact that these lighter airframes typically have a maximum take-off weight (MTOW) of 300kg places them in the deregulated category (SSDR) and also brings considerable benefits to both manufacturers and pilots alike. The proposal made to the meeting of the IGC called for the rules for the class to be changed, broadly as follows:

- Max wingspan: 13.5m (as at present)
- Max wing loading: 35kg/m² (as at present)
- Self-launch capable, by means of an electric power-plant
- Ability to utilise the motor also in flight, based on a predetermined quota for day.

Following much discussion, it was concluded that the Italian Aero Club (AeCI) would undertake a trial competition, on a small scale, to test the proposal and provide solid data for subsequent consideration.

The event

All of this debate culminated in X-Italia – 2016 “a tour of Italy”. As a leading producer of a 13.5m electrically powered self-launching glider, the Italian manufacturer Alisport Srl was the natural target and who better to organise the trial event than Stefano Ghiorzo, the current 13.5m World Champion?!

The event was organised to coincide with the Sailplane Grand Prix Qualifier held at the Aero Club Adele Orsi (ACAO) at Calcinate del Pesce, on the banks of Lake Varese. It also happened to coincide with the hugely popular cycling event Giro d'Italia – second only to the Tour de France. We called it X-Italia (pronounced cross-Italia) to embrace the concept of a cross-country flight across Italy and with a nod in the direction of Giro d'Italia!

The idea, from the start, was to test the theory of the proposal made to the IGC, to maximise the exposure of the sport within the media and, above all, to do something radically different!

There were three gliders involved. Not surprisingly all three were SILENT 2 Electros, produced by Alisport, built for the FAI 13.5m Class and equipped with the Front Electric Self-Launcher (FES) by LZ Design. The pilots were Luigi Bertoncini, Riccardo Brigliadori and, of course, Stefano Ghiorzo, all of whom have experience of the class, having competed in the first Italian 13.5m competition at Alzate in 2014.

The rules for this trial contest were based largely on the FAI rules for the well-known Sailplane Grand Prix series, but with the addition of the on-board electric motor

for the purposes of self-launching and subsequent use during any phase of the task: for the purpose of avoiding terrain, poor weather, airspace restrictions, or simply optimising the flight path. An energy quota (kW) was set for each day, according to the prevailing conditions and the task length. However, use of energy exceeding the daily quota was to be treated as an outlanding.

Here's what happened!

There were five contest days in a total of six, some involving more than one task and each departing and finishing at a different location. The event began at Calcinate, which lies among the foothills of the Alps, and then moved south over the central part of Italy, including both inland and coastal areas before returning via the Po Valley to finish at Calcinate – at the same time as the Sailplane Grand Prix Qualifier. To add an extra element of innovation, not to mention public interest and media coverage, we made a brief appearance at a few key points along the route of the famous Giro d'Italia!

The full itinerary took our three pilots more than 1,000km across the country, including Lombardy, Emilia, Tuscany and even to the island of Elba (see map on p43).

Day 1: Racing task – from Varese (Varese) to Cremona (Cremona) with a turnpoint at Monte Marengo (Lecco) followed by a time task – from Cremona (Cremona) to Pavullo (Modena) with a turnpoint at Fontanellato (Parma).

The first leg of the first task of the day took us across the Po Valley into a fairly stiff northerly wind. One of the three gliders was not granted permission to land at Cremona while already in the circuit, as parachuting was in progress. This presented little difficulty for our hero as all he had to do was start the motor and give way to the south while awaiting clearance. No pylon to erect, no low-level start, and no panic!

The second task of the day began with a self-launch from Cremona with minimum use of energy, and all motors shutdown some 150 metres above the town. The opening of the start line was delayed by a few minutes to allow for the drop-plane that was operating again. The conditions were difficult on task, but with perseverance all three pilots managed to reach Reggio Emilia. They then got quite low before finding a good climb. Ricardo managed to gain 1,800m on the ridge and set off toward Pavullo, but Stefano decided to use a little of his reserve power to



gain more height and beat Riccardo to the finish.

Above: The three pilots taking part in X-Italia, 15-21 May 2016

Day 2: This turned out to be a day of rest due to persistent rain in the task area, but all was not lost. We took the opportunity of a break in the weather late in the afternoon to practise our aerial display, with smoke, for our first guest appearance at the Giro d'Italia at Pavullo the following day.

Far left: Arriving at Elba

Below: The airfield at Elba

(Photographs by Lapo A Busi)

Day 3: Here was a unique opportunity to promote the sport of gliding to the crowds gathered for the finish of the tenth stage of the Giro d'Italia – definitely not to be missed! The three gliders departed at precisely 14:50 to arrive at the display line at the same time as the first cyclists. At 15:00 it was smoke ON and the skies over Sestola turned pink! Luigi started first with a solo performance, and was joined by Riccardo and Stefano for a well-rehearsed display of airmanship. The three flew in perfect formation, the sky a riot of colour and the streets crowded with thousands of people gazing skyward, some seeing gliders in flight perhaps for the first time! The TV crews from RAI and RDS provided a live greeting to the Giro cyclists – including reference to this unprecedented aerial display.



Main photo on pp38-39: The sky turns pink as the gliders perform a display, with smoke, over the historic city of Modena

Day 4: Racing task – from Pavullo (Modena) to S.Vincenzo (Livorno) with a turnpoint at Borro (Arezzo).

The day began with another brief display over the historic city of Modena to bid

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Getting ready to launch at the Aero Club Adele Orsi (Lapo A Busi)

Lasham's Allan Arthurs is the UK distributor of the Silent 2 Electro

■ www.gliderguider.net

Mattia Rigamonti is marketing manager at Alisport Srl

■ www.alisport.com

✎ the cyclists farewell on the next leg of the tour. Roberto Gianaroli, president of the Aeroclub Pavullo, gave a short public address, explaining the flight to the assembled crowd. Then, following a brief stop for a battery change, it was back into the air for the real task of the day.

Self-launching soon after lunch, uncertain weather with low clouds and gusty winds greeted our pilots. With motors shut down at about 200m they began searching out the first thermals of the day. Once under way

they turned south-west, en-route towards to San Vincenzo (Livorno). Being close to the coast the views on track are exceptional and all three had to concentrate hard on the task at hand! However, the conditions were not easy. With 60km to run, Luigi had to resort to using the motor and headed towards the nearest airfield to land at Chiusdino (Siena). Meanwhile Riccardo and Stefano were engaged in

a race to the finish. Riccardo used a little power in order to exploit some weak lift and, with perseverance, he managed to gain some precious height. But Stefano reached cloudbase first; he too used a short burst of the motor to achieve final glide into San Vincenzo, and first place for the day, albeit by just a very narrow margin.

Day 5: Racing task – from San Vincenzo (Livorno) to Marina di Campo, on the Island of Elba.

While it was only a very short task of some 41km, it is entirely over the sea! What's more, the day was seasoned with a steady 25kt wind from the north. The fact that our pilots self-launched and thereby used a substantial amount of their limited energy reserves made the flight over the sea all the more challenging!

Stefano headed directly for Piombino, using minimum motor power to conserve as much of the available energy as possible. Riccardo took a more cautious approach, gaining altitude over the Tuscan coast and after some hard work he reached cloudbase. However, the long sea crossing proved to be a task too far and he reluctantly turned back to the safety of the mainland. Who knows how many times he has flown in windy conditions and over inhospitable terrain, but the open seas proved just too much of a challenge! Stefano, however, managed to reach the coast of Elba Island at just 250m above ground and there managed to exploit the lift on the north ridge of the island, yielding some good climbs, and a well-deserved breath of fresh air! From there, it was just a few kilometres to the airfield, a call to the tower to announce his arrival, followed by a textbook circuit and landing. The advantage gained by Stefano, the only pilot to complete the task, was now unsurpassable. That evening the three gliders regrouped again at Pavullo for the last day.

Day 6: Racing task – from Pavullo (Modena) to Alzate Brianza (Como) followed by a time task – from Alzate Brianza (Como) to Varese. Our gallant trio departed early from Pavullo

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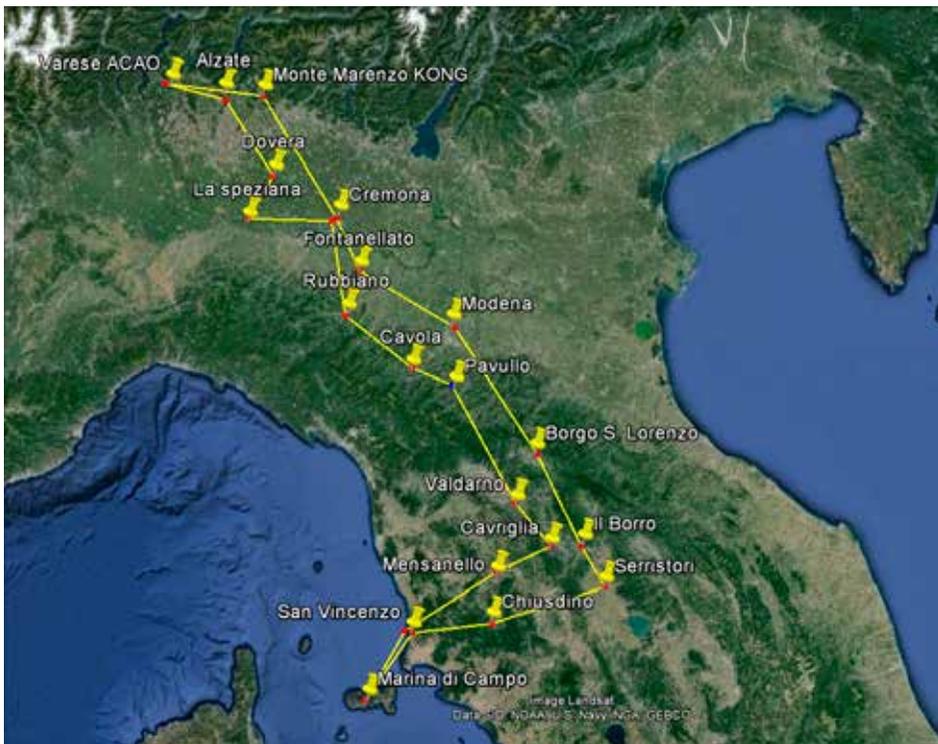
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The route map for X-Italia 2016

for Alzate Brianza, and another challenging crossing of the Po Valley. Initially conditions were good. With cloudbase at some 2,000m, they all achieved good average speeds over the first 50km stretch of the task. On arrival in the Po Valley, however, the situation changed; lift was very scarce and it became increasingly difficult to maintain altitude. All three opted to use their motors – albeit very sparingly. Both Luigi and Stefano crossed to Lecco while Riccardo decided to head for Lake Iseo, but on reaching Bergamo he regretted this decision as he found himself very low near Valbrembo and had to resort to using the motor again in order to reach the mountains of Lecco and the height needed to reach final glide to Alzate. The order of finishes at Alzate was Stefano, Luigi and then Riccardo .

Following a brief stop to re-install the smoke system, it was off towards Calcinatè del Pesce, for the final leg of our “Grand Prix”!

With the smoke systems installed once more, the performance of the gliders was somewhat diminished, but we were confident that the display would provide adequate compensation! They launched at about 18:00, just as the sun was setting and the last thermals of the day were beginning to fade away. The start line opened at 18:20 and all three pilots had no choice but to use their motors to gain altitude and then optimise the glide towards their goal. They all made it

to the airfield at Calcinatè at about the same time, but Luigi led the field, followed by Riccardo and then Stefano. The three gliders formed up over the finish-line for another of their rehearsed displays, again with smoke.

Thus ended the last task of the first X-Italia, an event in which these three electric self-launching machines proved themselves worthy of more than a traditional gliding competition. The winner of this trial event was Stefano Ghiorzo, twice World Champion, with Riccardo Brigliadori in second place and Luigi Bertoncini third. It is now a matter for the FAI (International Aeronautical Federation) to consider the results of this trial with a view to a change in the rules for the FAI 13.5m Class.



Stefano Ghiorzo at the rainbow's end (Lapo A Busi)

THE LAST WORD

We leave the last word to Stefano Ghiorzo, current 13.5m World Champion and overall winner of X-Italia 2016, to describe his personal experience of the event:

“IT WAS a thrilling experience, which allowed me to realise at first hand the motivational aspects of this new proposed formula, and how it serves to define a new type of contest.

I found it quite addictive to use a little of my precious on-board battery power, even for just a few minutes, to increase the average speed. This was particularly true in the weak conditions, to skip the poorest areas and exploit the best available lines of lift. This made the tactical decision making even more interesting for me.

The ability to self-launch and the daily quota of energy allowed as a function of weather conditions and task length delivered several key advantages:

- Better chance of completing a competition within the planned time-frame.
- Considerably less stressful for the pilots.
- Largely eliminates the possibility and risks associated with field landings.
- More predictable in terms of location and timing, making it more appealing all to those

involved, including the press and media.

While I am well aware that this formula may not appeal to the purists within the gliding community, I believe that it will attract a new and potentially larger audience of recreational pilots, who are currently not involved in competition.