



Does it runs its e-engine or not? You have no clue as soon as you are 1km away... so leaching or not leaching?...

Tilo flies the Discus-2c FES in a new kind of competition

First E-Glide Event

The first E-glide event was organised in Pavullo, Italy, just south-west of Bologna, in the northern part of the Apennine mountains in early September 2019. Weather conditions were already very autumnal but somewhat perfect for a real life test of this, still sailplane racing, but from another “point of view”. Indeed, IGC group in charge of testing this new kind of gliders wanted to reach one goal at first: Making a different game you usually do in all other FAI classes. But is it really the case?

So not 1000pts for daily winner any more, but elapsed time accumulating day after day. Outlanding becomes hardly an issue as you get a use of 2kWh daily allowance with no penalty, and if you use more, you get penalty time per Watt used in excess.

And in case you really outland (running low on power or because of weather issues), you will get no more than 20% more flight time than the worst finisher and that’s all.

But from these few lines of rules on a paper to real life, how did it work and can we really expect this experimental class to become healthy, or is it just another try expected to collapse like the World Class in its time?

Minimoa: Hi Tilo, first before we talk about this experimental competition, how is flying Pavullo?

Tilo: The area around Pavullo is very beautiful but also quite demanding. To the south high mountains of the Apennine (Monte Cimone, 2165 meter high), east and west high hills and steep valleys with very little outlanding possibilities. However most of the time it was possible to escape to the low and flat area to the north.

Can you remind us the rules of this new championship and do you think things could be improved for further editions?

Tilo: In general it was a “normal” gliding competition with only Speed Tasks, however it was allowed to use up to 2 kWh

of batteries energy without penalties during the task. That’s approximately half of the FES system battery capacity. Before crossing the startline and after crossing the finish ring (which often was located north of Pavullo in landable terrain - a great safety feature) we could also use our engine “for free”. A new scoring system was tried using cumulated time instead of points - somehow like the Tour de France. At the beginning we were somewhat “suspicious” but it worked out fairly good. However this system encouraged to fly rather conservative : winning by not loosing - big mistakes will throw you out of the scores without real chances to catch up the next days. Therefore, for future e-glide event, we discussed possibility of some additional time bonus for the daily winner. Advantage of the simple cumulated time scoring is the easy



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Compared to 13.5m World Championship, organised parallel to this first event, the E-gliders managed to race 2 more days during the same period! Scrubbed days with marginal weather conditions seems to be more usable now.

way to penalize excessive use of engine, above the 2 kWh limit. Finally, although I'm not a friend of sailplanes class with index handicap, I must admit that the used system of handicapping worked surprisingly good with that time scoring system.

Did your experience in GP competitions helped you during this e-glide?

Tilo: Yes and no... we started the races by Regatta style, so my training to optimize altitude, time and speed while crossing the start line helped me. During the flight only little "GP-feeling" came up. First of all we all got separated fairly quickly due to different (handicapped) glider performance and especially because of completely different way of use of the engine, which actually was great fun! However, knowing that everybody started at the same time, you had a pretty good picture about your current performance and position, especially close to the turnpoints, seeing the others. But (smiling), you couldn't be 100% sure about anything because you never knew how much of the 2 kWh your competitor had already used... With the time scoring instead of the harsh position scoring used at GP's it was not necessary to push very hard at final glide. I think, that's a kind of boring so I would appreciate a time bonus for the top finisher (for example 5 minutes for the top finisher?) - this would speed up the final glide or even the whole task quite a bit.

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Airfield of Pavullo is located in a nice small valley surrounded by many hills, weather was automnal.



What did you learn from this new kind of competition?

Tilo: We learned mainly 4 lessons :

① **We flew more!** Actually many more days than all other competitors in the classical gliding contest, which was held parallel in Pavullo. More or less every day without rain and marginal thermal activity can be used as a suitable competition day with these e-gliders.

② **You can't trust what you see!** So typical "Leaching", i.e. by using Flarm or Butterfly information, was impossible because, unless you were very close to your competitor, you never knew whether he was currently using his engine or not. Does he really climb in a 2 m/s? Did he really find this nice lifting line? Or is his engine currently on...? Hmmh - very exciting and fun!

③ **You have a lot of new options :** with smart use of the engine you could try out completely different paths - very **3D thinking!** For example it was possible to hop over passes in the next valley using the engine. Or you could stretch your glide to reach that wonderful looking cloud. Or easily climb at this difficult ridges. Or stay above ridges (a lot of time the best altitude with maximum energy to use)

using short cuts with engine instead of flying around with big deviations. We had no wave but with some engine help it would have been even possible to connect to weak wave system easily. For Pavullo, my biggest fun was using the energy lines with occasionally some little use of the engine allowing endless straight line flying.

"What a nice way to stay calm and be able to concentrate purely on having fun"

④ **Safety!** With that concept you can use the FES before getting into trouble. In that hostile landscape, I always stayed in safe reach of a know landing field. And before I came below glidepath of that field I simply used this reliable engine. What a nice way to stay calm and be able to concentrate purely on having fun.

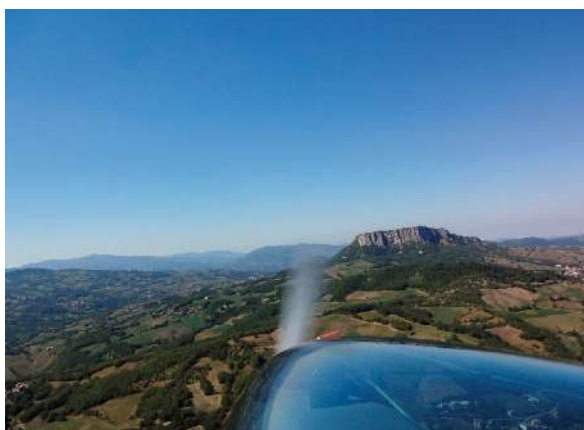
And finally, congratulations to Luka Znidarsic, winner of this first e-glide event on his brand new and stylish Ventus-3F! :-)



Even low, just the idea to be able to use the engine, makes you stress-free and able to think more accurate and also have fun! Especially as use of engine does not mean outlanding in the score!



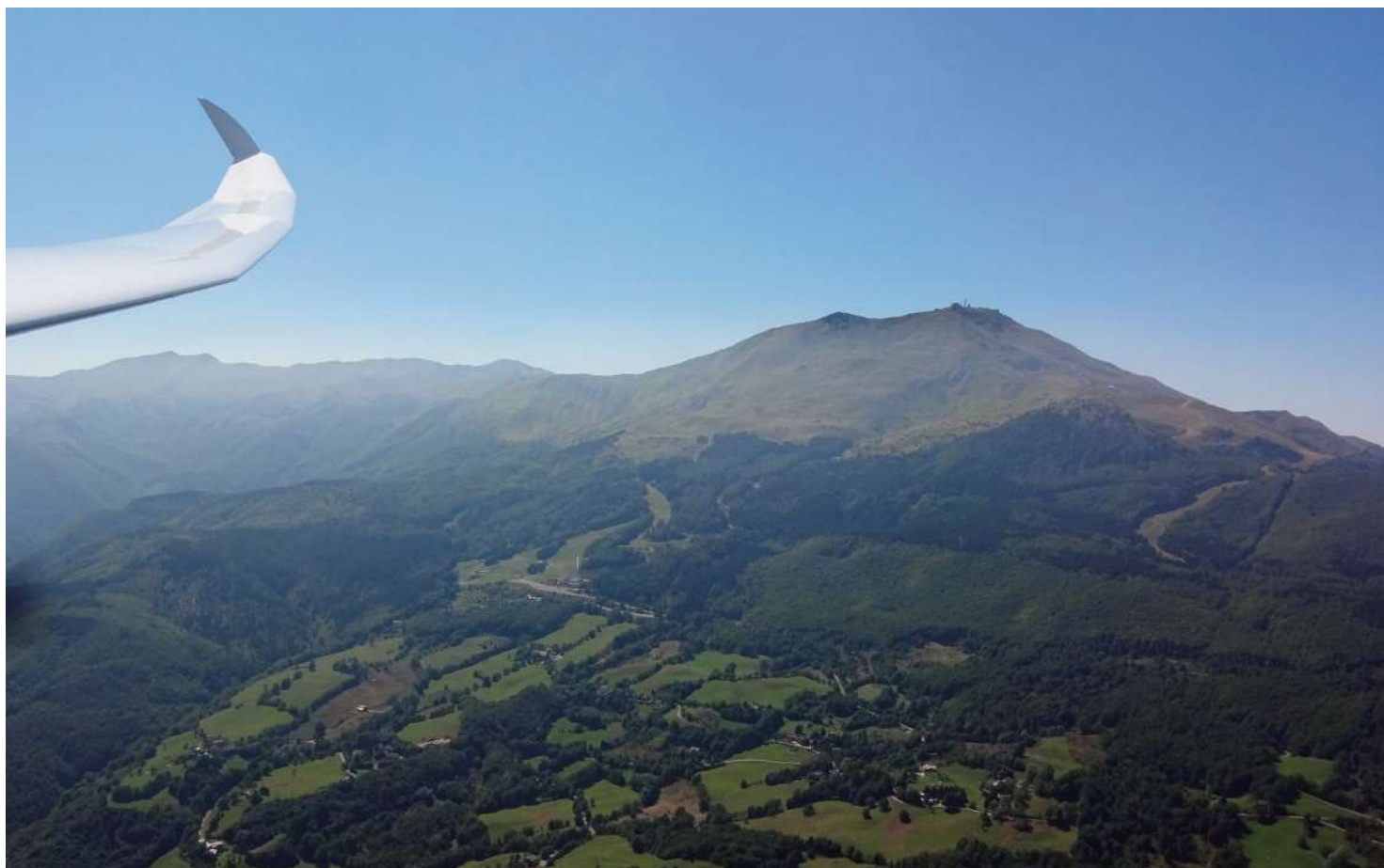
Daily routine with FES system is mainly installation of set of engine batteries, a small price to pay for such freedom in the air.



Typical "hybrid flight" phase where you just need a bit of help to skip a high terrain area and/or reach the next ridge at its best energy altitude.



A “dead air” area in one part of the task due to any weather or task design problem will be “jumped” to complete the task. And at the end it is still the best pilot using wisely the engine and gathering the most energy with best average speed who wins.



Results were displayed in a quite different manner than usual and managed remotely during this experimental event by NAVITER team. Base of daily scoring is time of the winner, the other pilots get a “score delay”. This makes an overall score of cumulated time like Tour de France.

e-Glide

#	CN	Contestant	Glider	Handicap	Total	1.	2.	3.	4.	5.	6.
1	LZ	Luka Znidarsic	Ventus 3 FES 18m	120	0	1 (0)	3 (-6.11)	1 (0)	2 (-6.98)	2 (-1.02)	2 (-14.77)
2	ES	Markus Uhlig	HpH 304 eS	118	-14.89	3 (-6.53)	4 (-8.57)	6 (-14.37)	1 (0)	5 (-8.21)	1 (-6.09)
3	FES	Tilo Holighaus	Discus 2c FES 18m	116	-32.63	2 (-3.64)	1 (0)	2 (-1.47)	4 (-37.09)	1 (0)	3 (-19.31)
4	71	Stefan Langer	LS 8 eNEO 15m	113	-41.89	5 (-13.37)	2 (-4.89)	3 (-2.18)	3 (-18.59)	3 (-1.8)	5 (-29.94)
5	MC	Aldo Pigni	Ventus 3 FES 18m	120	-128.2	6 (-27.76)	6 (-12.68)	5 (-12.58)	5 (-75.3)	4 (-2.57)	4 (-26.19)
6	GP	Mauro Brunazzo	GP 15 SE JETA	115	-148.61	4 (-7.86)	5 (-11.57)	4 (-6.32)	5 (-75.3)	6 (-34.54)	6 (-41.9)
7	SL	Stefano Corradi	Silent 2 Electro	97	-254.52	7 (-45.42)	7 (-25.13)	7 (-29.76)	5 (-75.3)	6 (-34.54)	7 (-73.25)

