SkyEcho combined with SafeSky: my new best friend in flight

A safe flight from EBBY to LFSN

With a gang of fellow pilots from our local club EBBY in Belgium, we periodically organise lunch flights to France, Germany, Switzerland and other nearby countries.

Typically, via WhatsApp we set a destination with a good restaurant and call out to anyone available on a perfect VFR day. Pilots in command and co-pilots are volunteering quickly, and often a set of 3 to 4 aircrafts are organised. Flight plans are filed and we wait for D-day :-)

This time it was on Wednesday, May 25th 2022. We were 4 ultra-lights pilots flying 2 MCR 01, ready for take off at 1030 local time. Destination: LFSN. Our planes have callsigns OO-E07 and F-JVZJ and we have a slightly different route planned.

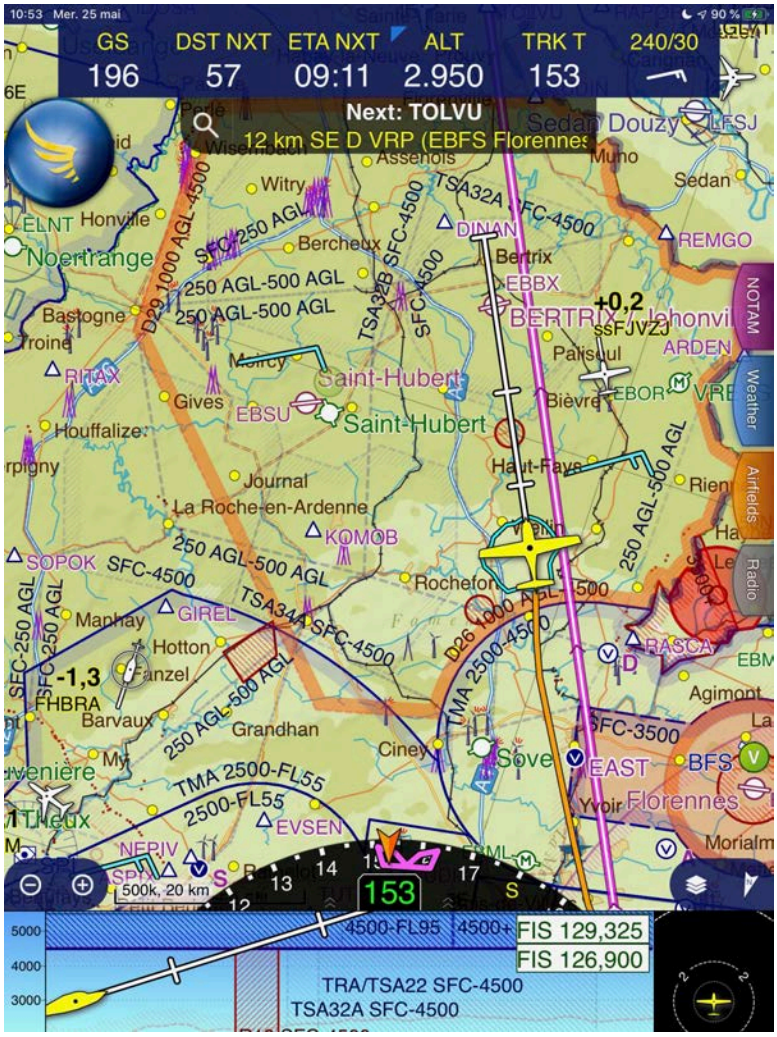
OO-E07 is equipped with an ADS-B Out transponder, SkyEcho with ADS-B in and SafeSky. F-JVZJ is equipped with MODE-S and SafeSky. Both are using SkyDemon for navigation.

My SkyEcho is providing the Wifi hotspot. SafeSky is running from my iPhone, and SkyDemon is running from my iPad. Both devices are connected to the SkyEcho Wifi.

On one hand, SkyEcho is showing ADS-B IN traffic. Unfortunately, in Western Europe we are talking about less than 10% of general aviation and ultra-lights, which is very low.

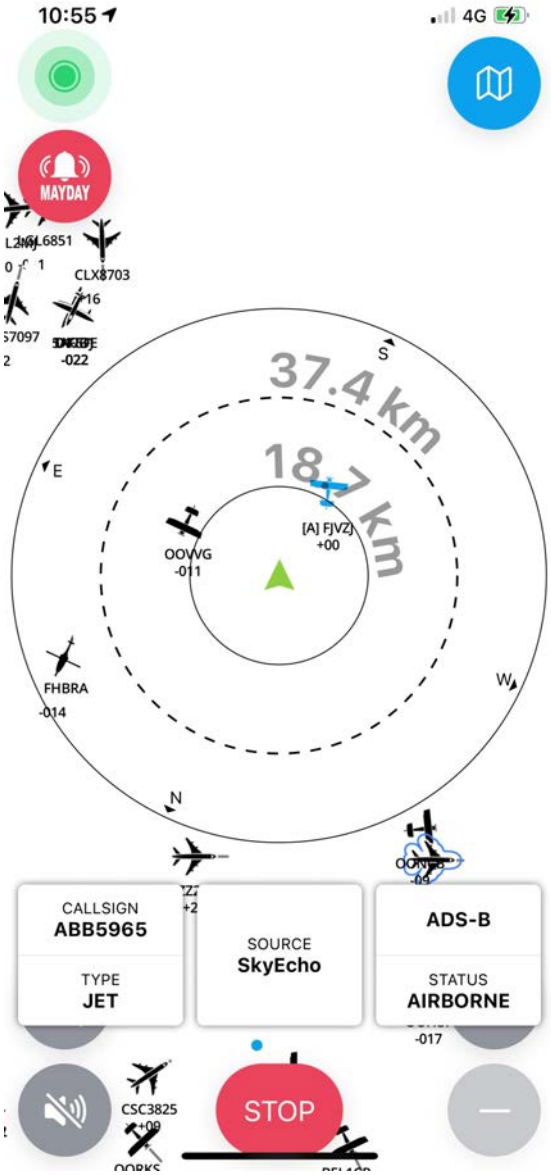
On the other hand, SafeSky is showing 14 different classes of transponders such as FLARM, FANET, PilotAware, OGN trackers..., along side with the SafeSky community itself, which represents about 30 000 pilotes in Europe.

Thanks to the magic of combining SkyEcho and SafeSky, SkyDemon is now able to display all combined traffic seamlessly: it's the best of both worlds since you add up the missing traffic to SkyEcho. If no internet would be available, you continue to see the SkyEcho traffic.



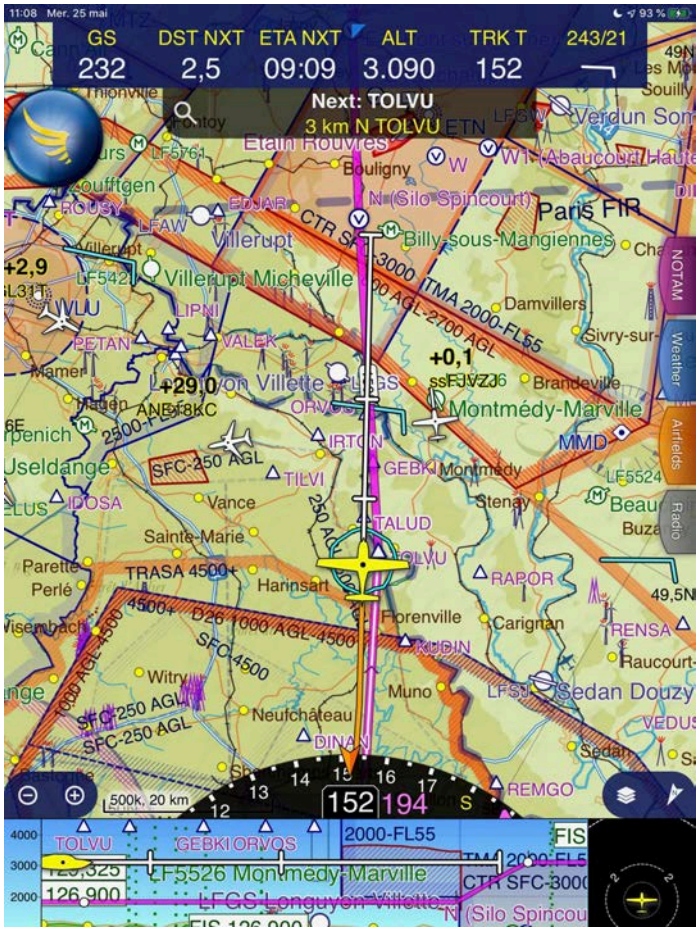
Example: F-JVZJ from SafeSky (prefixed with 'ss' for display purposes), an ADS-B Helicopter and an airliner

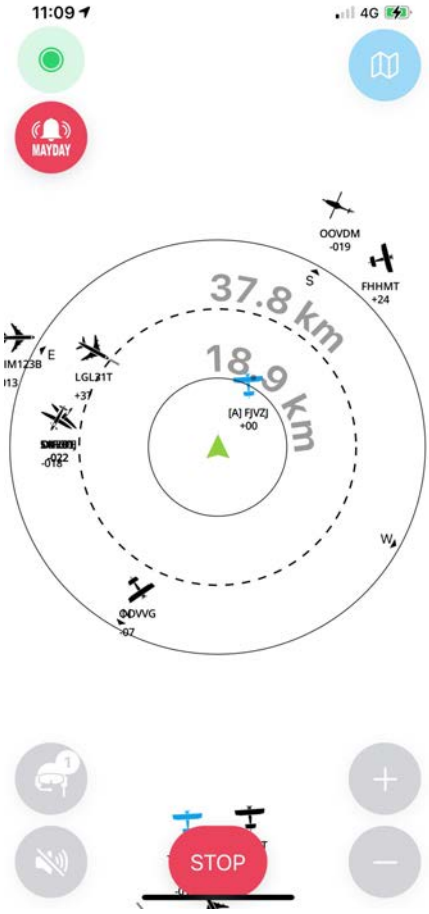
Example: F-JVZJ in blue from SafeSky, an ADS-B ABB5965 from SkyEcho, and some gliders from FLARM over SafeSky...



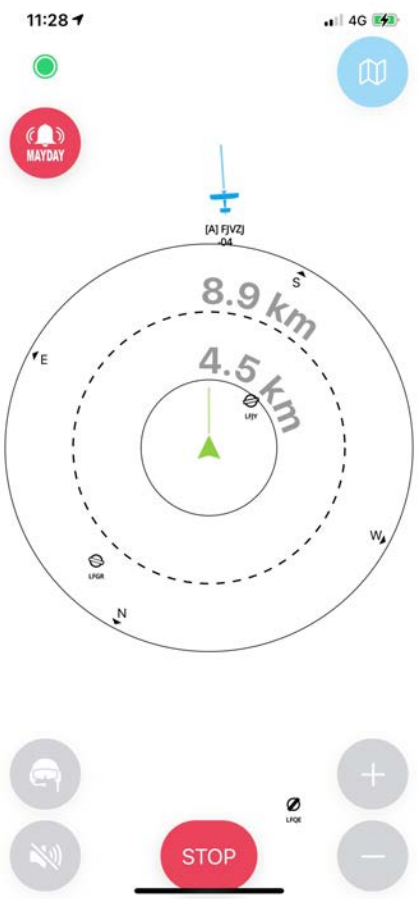
During the flight, my favorite flow is to have a dedicated screen on the iPhone with SafeSky in radar mode, and SkyDemon on the iPad. This provides me with two types of traffic information:

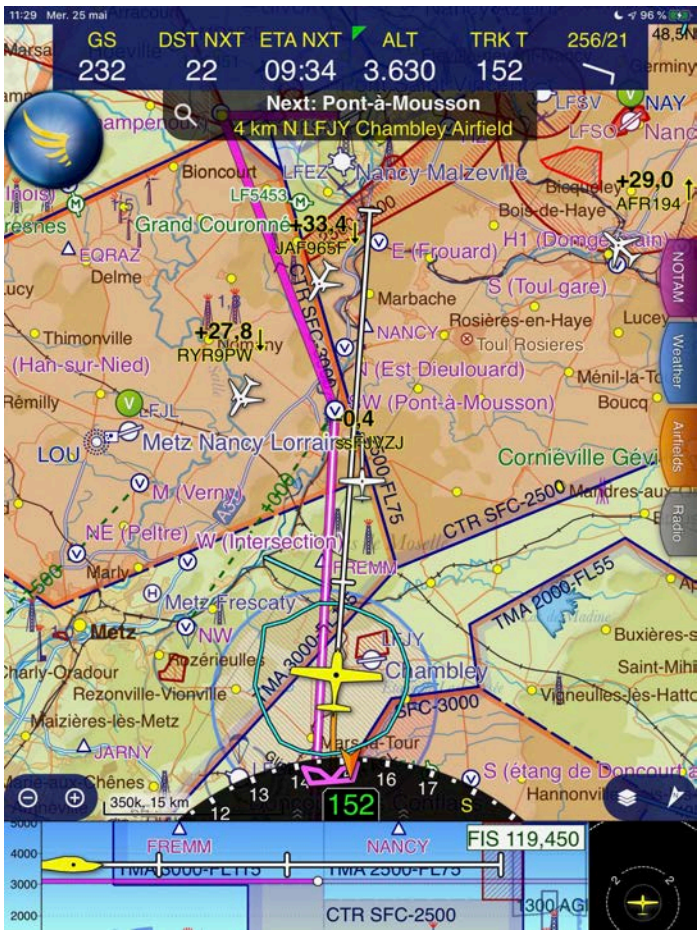
1. SafeSky in radar mode gives me proximity alerts. It's most of the time quiet, and will only trigger my attention when there is converging traffic that represents a danger.
2. SkyDemon with the full traffic gives me a general situation awareness about what is happening in the vicinity, and further away too. As such, when e.g. a group of gliders are at 15 km from me and on my route, I will diverge a bit to totally avoid their location. I can do that thanks to the general view.





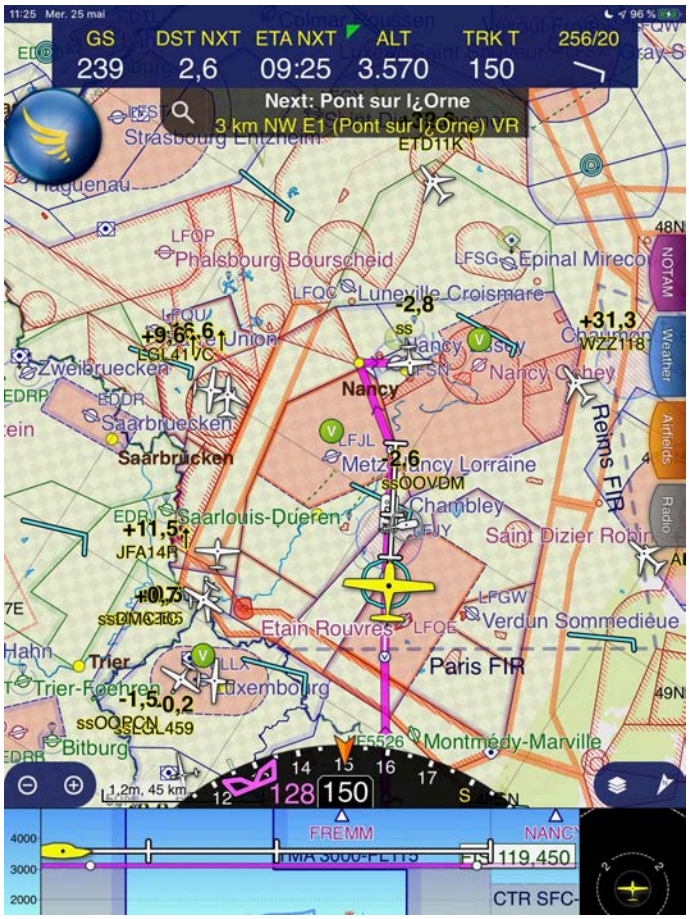
During the flight, I could locate at all times my fellow pilots from F-JVZJ and maintain reasonable distance with them, while knowing we are on track to arrive at about the same time.

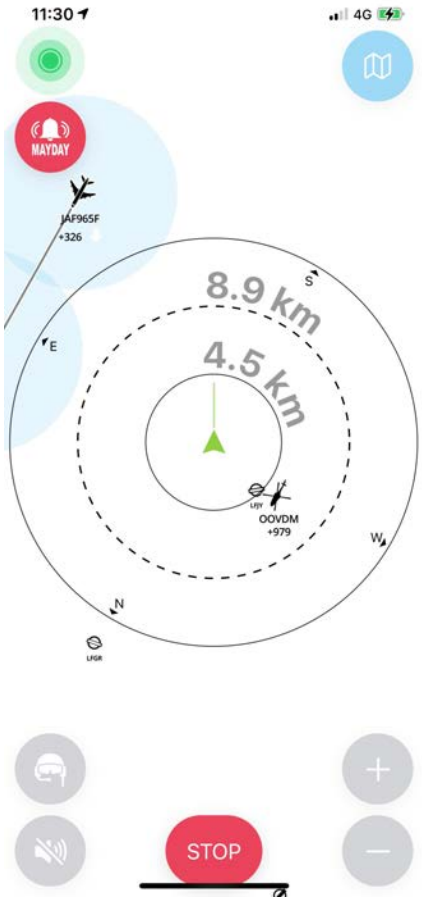




10 minutes before arriving at LFSN, a SafeSky helicopter took off from Chambley (LFJY) ahead of me, flying from my left to right below me. As I was flying 2000 feet above it, SafeSky did not trigger an alert. Still, it was interesting to be aware that this traffic was flying below me so that I could pay attention to its behaviour as both my co-pilot and myself did not manage to have it in visual sight.

After passing LFJY, this helicopter was now 1000 feet above me, confirming that it was taking altitude. I was already 5 kms ahead of it, so no danger so far, but useful to keep a close eye on it.

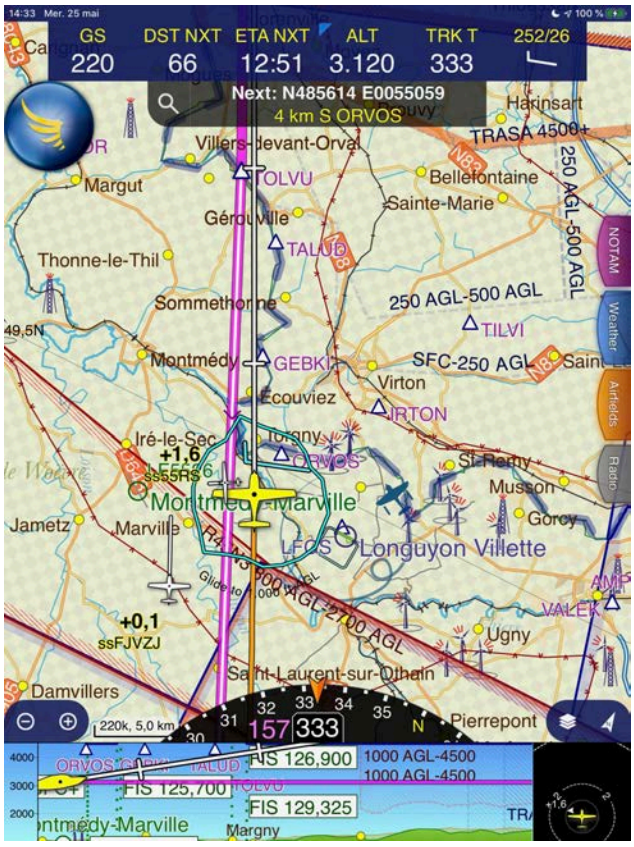


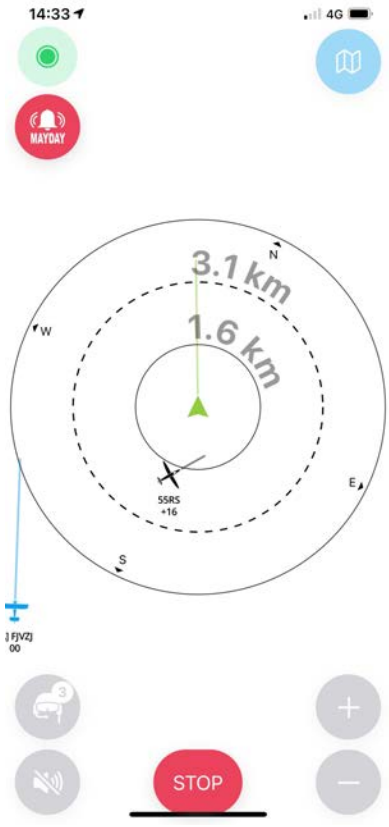


On LFSN arrival, I was able to know the runway in use prior contacting the AFIS by simply observing the flights in the traffic pattern.

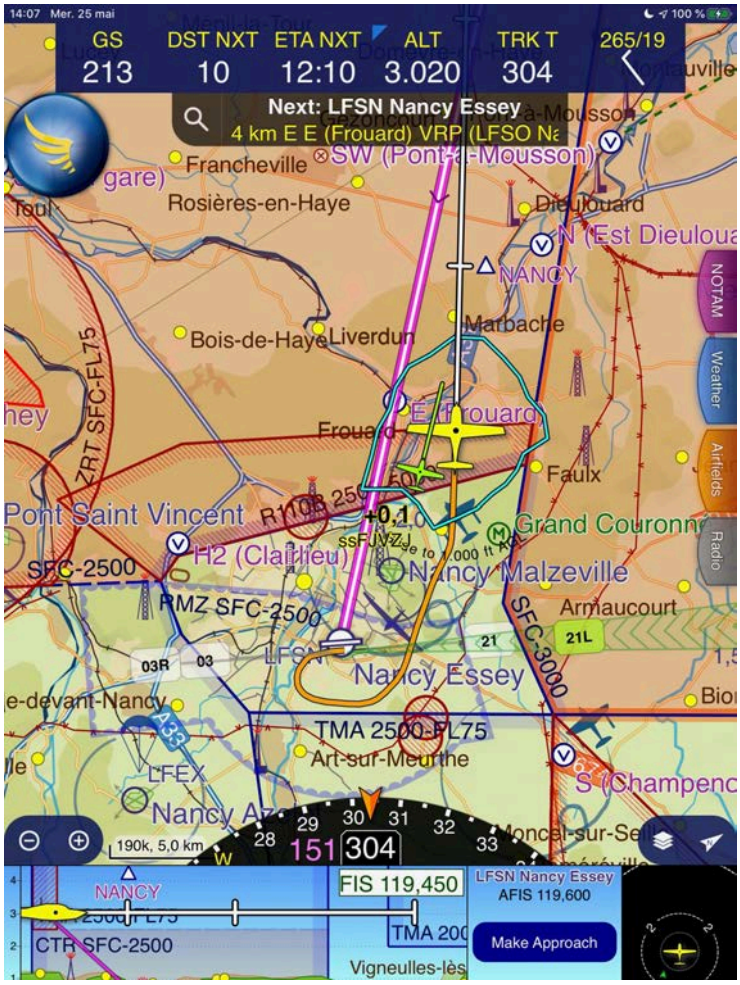
Arrival was smooth and the restaurant was excellent with great service. I totally recommend :-)

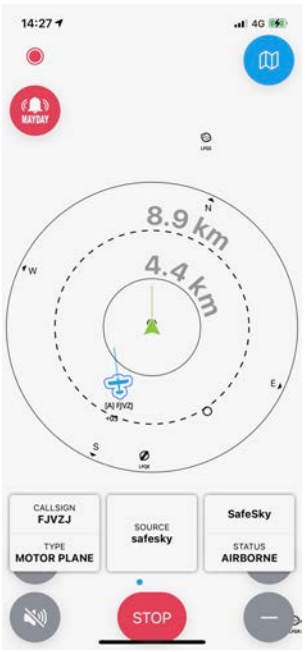
Before the Belgian border, we passed across a glider that was using SafeSky (ss55RS) at 1600 feet above us. Thanks to SafeSky, we knew where to look and were able to spot the glider in the air.





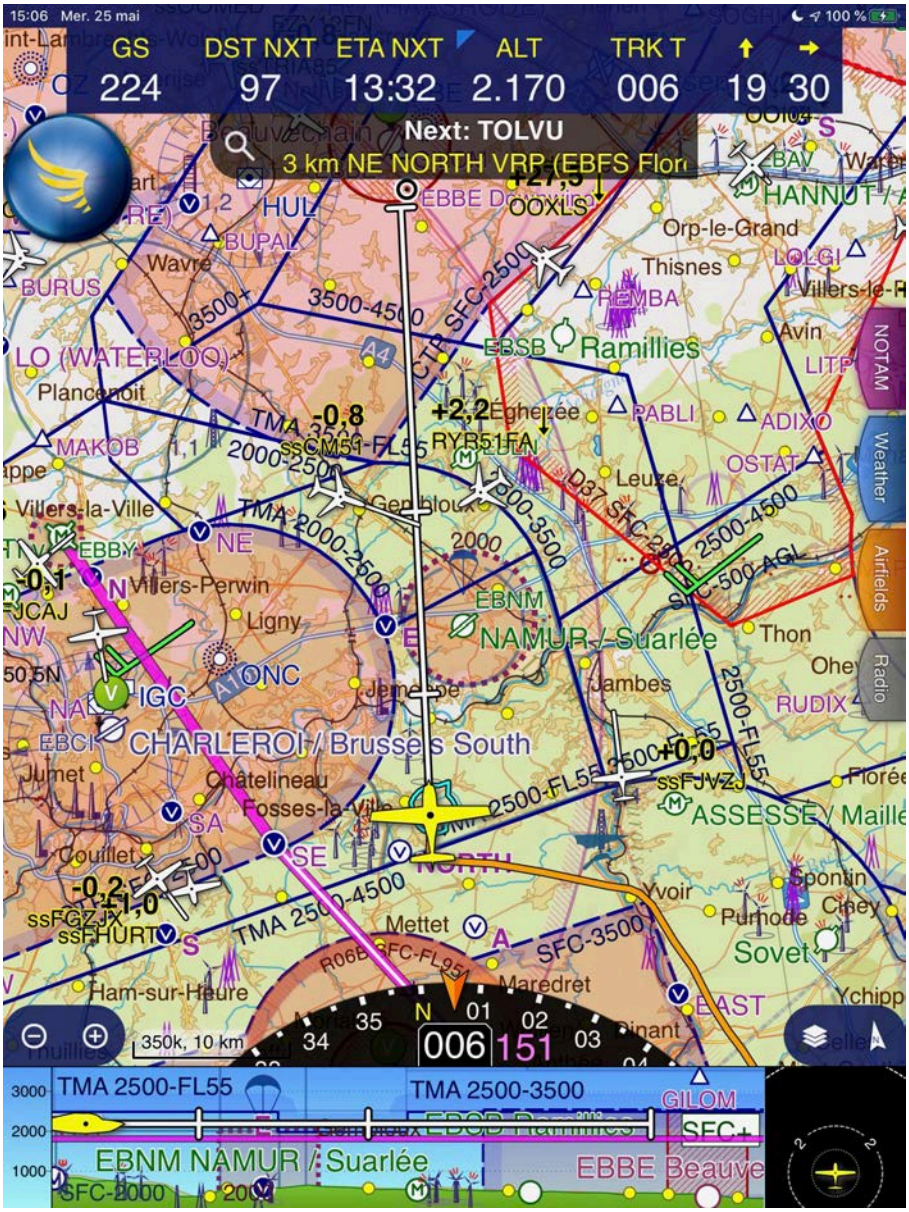
The journey back was pretty smooth too, this time I was leading the flight and F-JVZJ was following me with safe distance.



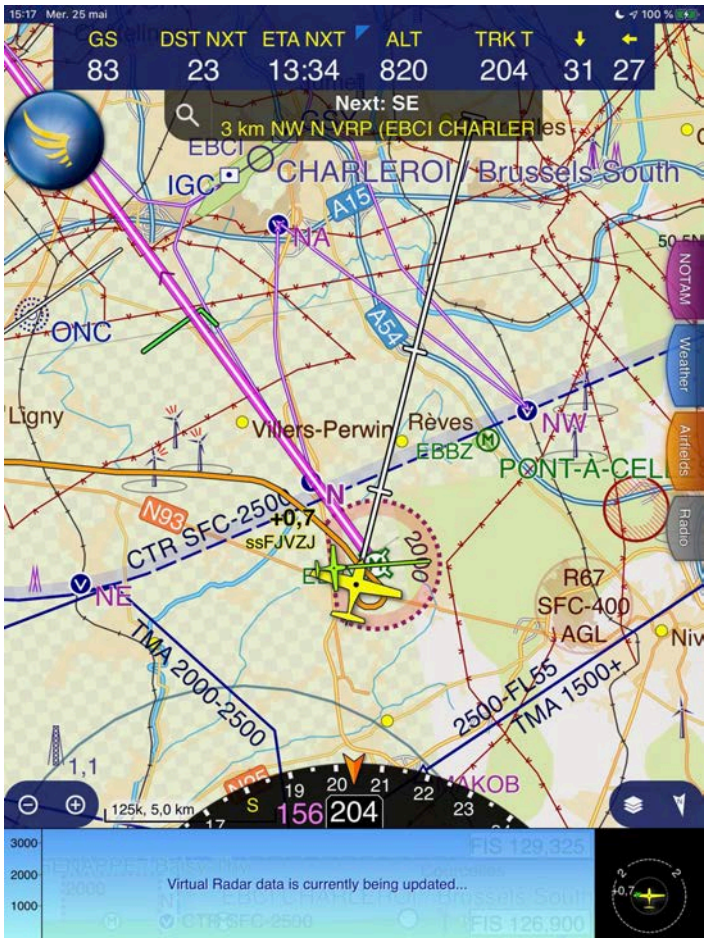


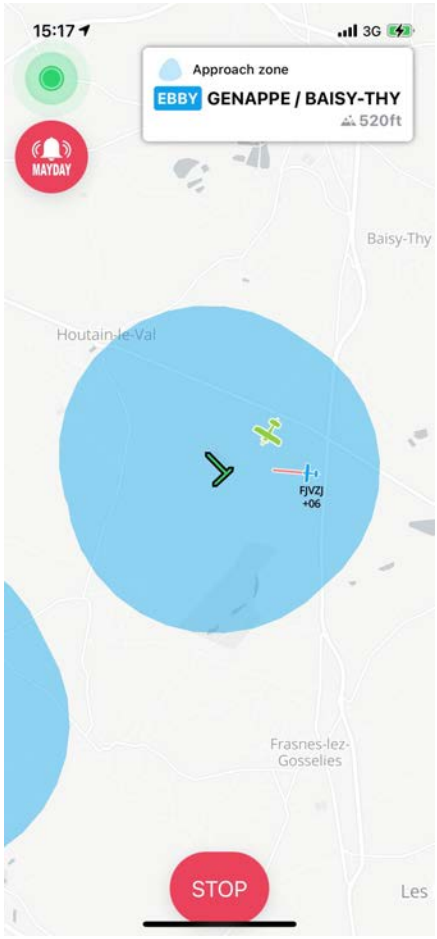
The arrival in Belgium was much more busy, with traffic reported by SkyEcho and others by SafeSky. Coming close to the Charleroi CTR, both General aviation, ultra light, gliders and commercial aviation were flying all around. We kept a sharp look.

Note that just before the CTR, two fast moving military F16 passed in front of us from right to left. They had been announced by Brussels Information to us 20 seconds before. Unfortunately, neither SkyEcho nor SafeSky were able to show them since they fly with no active transponders. For this raison, one should always keep in mind that the absence of visual from Sky Echo or SafeSky does not mean that nothing is around. We fly VFR, and we must only use traffic information for what they are: information.



Back to EBBY, that was a perfect timing for our return with out friends from F-JVZJ.





Conclusions:

The SkyEcho device is a fantastic piece of technology: it's portable, reliable, light an has a batterie. During both journeys, it has worked continuously without any issues at all. We were able to distinct if the traffic was a SkyEcho traffic or a SafeSky traffic by simply clicking on the plane and see the source information.

Despite having SkyEcho onboard, we were primarily seeing airliners. Only very few general aviation or ultra-lights are ADS-B equipped, which is sad of course. This is where the combination with SafeSky shines: we were able to spot SafeSky pilots, FLARM gliders, ADS-B motor-planes and some FANET paramotors at some point. The integration is seamless and its traffic simply adds up to SkyDemon. You get SkyEcho and SafeSky traffic all combined together!

When crossing the Belgian border, we lost internet connectivity for about 5 minutes on the iPhone. That was not an issue at all, since SkyEcho was feeding us with the ADS-B traffic, as it would in stand alone mode. Once Internet roaming was received in France, SafeSky visualised all other traffic again. No action required, it just happened automatically.

As a conclusion, I'd say that I could not fly without both my SkyEcho and SafeSky. We are flying VFR, and it has its benefits and limitations. Mind that this solution is providing a situation awareness, not a tactical anti-collision system. We are responsible for our flight, and should primarily look outside, and integrate as a secondary source of information the traffic information provided to us. We must flight ahead of the plane, and such awareness can only help anticipating decisions.

Fly Safe everyone,

Satanas