

# MAKING THE SKIES SAFER FOR US ALL

Can one light save lives? Experiencing an Airprox that demonstrated how difficult it is for others to spot gliders was the beginning of a journey to boost our visibility

BY RAFAEL SCHOUGHANA | PHOTOGRAPHS GLIDEWISE

In late 2023, I had an experience that made the visibility challenges of gliders all too real. While flying as a pilot from the London Gliding Club, I faced an Airprox that clearly demonstrated just how difficult it can be for other aircraft to spot gliders, especially when sharing airspace with general aviation aircraft.

After that incident, I knew something had to be done to address this issue, and I discussed my concerns with Pete Milligan, a fellow club member. Together, we realised the need for a solution to enhance glider visibility and prevent similar incidents in the future.

At the time, other conspicuity solutions were already available on the market, but we felt compelled to create one of our own – a solution designed and made in Britain. We wanted something that would meet the specific needs of our gliding community, ensuring a high-quality, reliable product that would be accessible to pilots across the UK.

Driven by our shared commitment to flying safely, Pete and I began developing what would become the GlideWise canopy flasher. Our goal was straightforward: to make gliding safer for everyone in the air.

## ENGINEERING AND COLLABORATION

Pete played a critical role in engineering the hardware and firmware for our device. He used 3D scanning and printing to accommodate different glider canopies, resulting in a form factor that could adapt to most models. This was further enhanced by using flexible, high-quality plastic for the head unit, which helped ensure a good fit on various canopies. In addition to his engineering contributions, Pete designed and assembled all the electronics and manufactured some of the aluminium parts.

We also had crucial support from



Gordon MacDonald, CTO of the British Gliding Association, who pointed us in the right direction regarding the CAA/EASA regulations we needed to comply with. His guidance helped us navigate the regulatory landscape, making sure the flasher met all necessary safety standards.

Another key collaboration was with Arrow Electronics. They helped us define the hardware architecture and supplied the essential components we needed. This partnership was vital in ensuring we had



*From left to right:*

- First Alpha unit – without lenses
- First moulding to create carbon housing prototype
- First prototype of the head unit housing in carbon fibre. We then decided to adopt a more flexible plastic housing to conform with different canopies



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First Alpha unit is fitted in Pegase

reliable, high-quality parts to bring the project to life.

As our development progressed, Christian Brunschen, another pilot from the London Gliding Club, joined the team. Christian used his software engineering expertise to create a mobile app that allows pilots to easily control the flasher's settings from their smartphones, which added an extra layer of usability to our system.

### **RED, GREEN OR WHITE?**

One of the biggest decisions we faced was choosing the right LED colour for the flasher. After extensive research and debate, we settled on red-orange LEDs. Many pilots tend to focus on being visible to other glider pilots, often overlooking the fact that general aviation aircraft might not spot us if we rely solely on FLARM. We wanted to ensure our device complied with overall CAA/EASA guidelines so that all aircraft, not just gliders equipped with FLARM, could see us.

Several factors influenced the choice to use red-orange rather than green. Red-orange is strongly associated with

danger, making it effective for drawing attention. It also complies with aviation safety regulations, such as those from the Civil Aviation Authority (CAA), the European Union Aviation Safety Agency (EASA), and the Fédération Aéronautique Internationale (FAI), which mandates red or white strobes for international competitions. Additionally, we found that green light tends to scatter more, reducing its effectiveness in certain conditions.

### **A COMPREHENSIVE APPROACH TO SAFETY**

The GlideWise canopy flasher is just one piece of a broader safety puzzle. Our mission is clear: if our device can make gliders visible in critical, head-on scenarios and prevent potential collisions, then we have succeeded in making the skies safer for everyone.

The flasher is not meant to replace the vigilance needed for safe flying but to complement other safety measures like FLARM and good lookout practices. By combining these tools, we can create a robust safety system that helps prevent



GlideWise installed



From left to right:

- Measuring heat generated by the LEDs
- Test fitting in a K-21
- GlideWise canopy flasher control box head unit

[www.glidewise.co.uk](http://www.glidewise.co.uk)

**‘ IT’S ABOUT MAKING A DIFFERENCE – ONE THAT KEEPS OUR FRIENDS AND FELLOW PILOTS SAFE IN THE SKIES ’**

✂ collisions and enhances pilot awareness in challenging situations.

**RAPID DEVELOPMENT AND COMMUNITY FEEDBACK**

From concept to a commercially viable product, the development of the GlideWise canopy flasher happened in just eight months, which was impressively fast considering the complexities involved. The feedback from the gliding community has been incredibly positive, with many pilots reporting significantly improved visibility,

particularly in head-on situations.

I’ll never forget the comment one pilot made to me after we landed: “In that head-on situation, I spotted you much quicker thanks to your flasher. Usually, when the FLARM alert goes off, I have to look everywhere to find the glider, but this time, I found you right away.” Hearing that made all the effort worthwhile. It confirmed that our device was making a real difference in enhancing situational awareness and helping pilots react more effectively in critical moments.

**THE CHALLENGES OF A SMALL MARKET**

Beyond developing the flasher, we have faced some challenges on the production side. We are working closely with suppliers to reduce minimum order quantities, but this has been tough considering the relatively small size of the UK gliding market. Balancing production requirements with market demand is an ongoing effort, but we remain committed to providing a viable and effective safety solution to the gliding community.

**MOVING FORWARD**

Despite the niche market and competition from established players, we remain focused on continuous improvements. We are constantly refining the product to meet the specific needs of the gliding community and contribute to a safer flying environment.

This initiative not only addresses a critical safety issue but showcases the innovative spirit and high standards of British manufacturing in the aviation sector. For us, it’s about making a difference – one that keeps our friends and fellow pilots safe in the skies.

A huge thank you goes out to everyone who has supported us on this journey so far: the pilots of the London Gliding Club, the BGA, Arrow Electronics, and other interested partners who believed in our vision. Your support has been invaluable.



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