

**Supplementary Written Evidence Submitted by Future Flight Concepts Ltd  
(RFA0111)**

ARPA/BARPA

I tuned into the on-line discussion on 11<sup>th</sup> November and hope Amanda Solloway can deliver an ARPA also fair to misfits as I will always be one.

An ARPA supportive of individuals and micro-SMEs would be welcome, the more so if large companies and universities with the resources to understand and comply with the paperwork/micro-management are prevented from grabbing all the funding. One third of the budget should be allocated to individuals acting independently of EPSRC-funded groups, perhaps conditional on their holding unassigned valid granted patents in an area beneficial to the general public.

I don't believe in 'government' picking winners. I do believe in government money backing winners, a status evidenced by physical demonstration to a lay panel without political, university, or industry connections. For many inventors that suggested third of the budget could be their first real prospect of recovering their initial outlay, albeit retrospectively, and being able to carry on in hope.

I, myself, am working on a novel ultra-short-take-off-and-landing rear-loading lightweight logistics aircraft promising 'a safe leap into the air like a bird'. Other projects include a zero-carbon wind-powered 'electricity multiplier' that leverages the electrical power put in, and a mobile 'zero carbon' charger for electric vehicles able to get them moving again under their own power.

I won't be entering any loan 'competitions' as the outcomes too unpredictable and time-consuming. My buyers are offered a menu. If the supply chain companies wish to apply for grant funding, individually or collectively among themselves, then good luck to them. My project function is the controlling mind.

Stephen Harding  
Inventor

Further to my letter of 27<sup>th</sup> November, 2020, if the military is expected to undertake civilian tasks on demand - like distributing humanitarian aid and Covid-19 vaccines, rescuing flood victims, putting out bush fires, surveillance of illegal immigrants crossing the Channel, etc. - surely the government has a duty of care to fund an adequate cost-effective non-combat-focussed aerial task force to get the job(s) done? That does not have to mean ludicrously-expensive rotorcraft: just simple logistics aircraft that can have dual civil/military roles.

The proven 1945 Miles Aerovan design just needs an aerodynamic scrub-up, and updating with electric contra-rotating propellers and customised stubbier wings to increase the lift and shorten the landing run. So hardly a big challenge.



<https://www.youtube.com/watch?v=YhlBpcp2yZI>

A near-eVTOL 'zero-carbon emissions' version credibly-promising a 'leap into the air like a bird' and plenty of range is anticipated in my now-granted patent.

This is still not at the right TRL for any financial support from the Aerospace Technology Institute (ATI): a private limited company with an enviable near-monopoly grip on government civil aerospace funding and great people on the payroll. What matters is that attractive new aircraft are built. The French will love mine. Perfect for importing live bi-valve molluscs too.

Lots of exciting 'zero carbon emissions' powertrain technology is being developed, particularly for the auto industry. I'm hoping more than enough of it can be "dragged & dropped" into my designs. So I just need to be patient and wait my turn, frustrated by not being able to make airframes concurrently here.

Finally, I am horrified at the damage offshore wind farms at sea are likely to inflict on the sea eco-environment, meaning the electromagnetic radiation effects of all those power cables - never mind that of ripping up the seabed to take them.

<https://epis.boem.gov/final%20reports/5115.pdf>



Adapting Flettner rotors so thrusting bases can generate power for a green ammonia plant on board - as set out in a not-yet-published patent application of mine - removes the need for many wind farms altogether. Just send shuttle tankers to where the winds are and return when the ammonia tanks are full.

There is also a case for just mounting some vertical-axis wind turbines (VAWT) on the deck to fully-charge Saft marine batteries before returning to base. Time for the U.K. to make such ships rather than dwell on building Type 31 frigates?

**(February 2021)**