Blog Humming Man Project

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Today

Flight duration

My excitement is huge seeing the progress in battery technology. Current Lipo batteries have energy densities of 100 to 180 Wh/kg. This allows the man drones to stay in the air for 5 to 8 min. The good thing is that in the area of Alum and Zink air batteries the densities are much higher ca 2000 to 1000 Wh/kg. On the negative, we can say that for Alum the recharging issue is not resolved; for Zinc it has. The dendrite formation has been solved with a special material anode where the Zinc cannot deform it. Other good news is on the graphene being used in superconductors which can make fast charge or decharge batteries, needed for e cars and also drones.

What are the implications: it is simply that in the near future technology will allow the man drone to get to a ca 100 min flight duration. This is quite an acceptable period *(In-the- air-charging* is not conceivably now, but it might be there also through recharging lanes). So we are in an interesting development: the battery technology is now pushed to better performance, since we as consumers want to have e-cars with similar properties as fuel run cars.

Funding

The first funding steps are underway. After a first crowd funding experiment (Kick starter), we found out that in order to make that work, you have to have a prototype or proof of concept ready. You cannot just have an idea only. So we decided to look at a closer way of raising funds. A good friend of us recommended to only requesting a small group of friends and family to support the project. If each person would support e.g. 2000 Euro, with 5 to 6 we would cover the costs of materials for the craft.

It looks like we have some 3 supporters now and that would bring us to 6000. So we still have some way to go…. Once, we have the project going and video material of a real life system, we can go for the crowd funding, etc..

Companies

We think that apart from family and friends companies should be involved just like students in this effort. We are in contact with a number: HobbyKing, PFTprofiles (Carbon Fibre), Enyini, Ploeg Metal, and KMWE. The first four are supporting with reductions of prices, adding networks or machining parts, and the last one will soon give an official reply and some of their staff is already interested on a personal level.

For the craft the quotations of the different components have been made, and we hope to have a reply soon.

Universities
We are having contacts with TuDelft Aeronautical Engineering and a visit is planned to their faculty and other places where students can build their projects. Here with one of student mentors the idea came up to have a sort of competition starting: the idea is sound and definitively we need much more people involved in this effort. Indeed there can be different shapes and forms for the man drone, and we would like to have student teams work on this.

Update on the strategy
Good to understand that this project is not something of for once only. The idea is to have it become the start of a series of developments leading to such crafts being used as personal 3D vehicles, as parcel carriers, etc.. (This will take 10 to 15 years) We imagine the following steps:

1. Small funding with friends and family to raise the funding of the prototype (PoC);
2. Build the PoC and test it;
3. With the PoC make shows and videos, test it, and demo it;
4. This PR can be used to gain interest of bigger supporters (the Elon Musk's of this world) so that they get involved somehow;
5. To raise interest of student teams and set out a competition on man drones;
6. Also to raise money for furthering this PoC into something of a commercial product;

As we will see this move, we can adapt the strategy!

Next steps

- Asap we have the quotations ready, we can sit together with the team and go through the calculations, and start.

- With the funding raised now at 6000, we still have to further this. Asap we have all in, we can order the equipment and build it.

- We are also checking the interest of more specialists in the team!

- We are working on the website to fill it with the work! It is open source and should be used for sharing!

If you see this as interesting for friends or colleagues, pls pass it through and copy me on it!

If you want to support this effort too, pls let us know. You will then have a share in the PoC!

Keep you posted, Winfried +31 6 53172983