

# Master Thesis Project

---

## Title:

UAV flight & control system development (*possibly for 2 or more students*)

## About us:

At Alveo AB, we work on unique innovations that address the most challenging problems within wind energy measurement, control and optimisation using autonomous UAV systems. Our mission is to accelerate the global energy transition by enabling wind energy to be more productive, predictable, and profitable.

Right now, you can help us get more traction by doing your thesis project with us.

## Scope of Work, Objectives & Expected Outcomes:

We are offering Master Thesis opportunities focused on developing a UAV system with limited autonomous flight functions. The objectives of this project are:

- 1) Preparation and hardware assembly of an existing VTOL UAV
- 2) Flight and control system development for limited autonomous functions
- 3) Flight testing (both manual and autonomous)

By the end of the project, it is expected that the mentioned UAV can be seamlessly flown (a) manually by an operator, (b) autonomously by following simple command functions including:

- 1) Take-off/land
- 2) Maintain position
- 3) Follow a determined path
- 4) Hold pattern
- 5) Avoid collisions
- 6) Return home

## Ideal Candidate Profile:

- MSc student in Mechatronics, Robotics, or related fields. You must be currently in the last year of your master's studies and looking to complete your Master's Thesis Project (15-30 university credits).
- Strong background in programming and embedded systems development.
- Experience and familiarity with prototype development and testing is a strong plus.
- Proactive, structured, and detail-oriented.
- Background knowledge in the wind energy and a passion for sustainability is a plus.

## Additional Information:

At Alveo, we believe it's important that your thesis project is not only valuable to us, but also interesting, educational, and rewarding for you. We see you as the expert in this field, and we therefore encourage you to actively improve and shape the project based on the skills and knowledge you have gained during your MSc studies. If you identify valuable additions or meaningful adjustments, we fully support you in suggesting them, in collaboration with your academic supervisor's feedback.

Please also note that due to the sensitive nature of this project in relation to Alveo's competitive strategy, the results of your work (including intermediate and final reports, code, and other outputs) may be subject to review before becoming publicly available. There is also a possibility that you would be required to sign a limited non-disclosure and confidentiality agreement (NDA). However, this should not affect the successful completion, evaluation, or academic presentation of your thesis at your university as well as any communications with your supervisor.

**Sounds interesting?**

We cannot wait to hear from you! Please apply as soon as possible, since the selection is on an ongoing basis. You can send your applications to [info@alveo.se](mailto:info@alveo.se), including your CV, a short motivation letter and a transcript of your courses.

Know anyone who might be interested? Share this with them!

See you soon!

Read more about Alveo at <https://alveo.se/>