

“Developing protocols to utilize drones in the construction industry”

General project information

Project title: Developing protocols to utilize drones in the construction industry

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Project context

The University of Twente, TU Delft and BeemFlights are collaborating in a 3TU Lighthouse project named “Throw in the i-drone”. This project has the ambition to demonstrate possibilities that drones can offer to the construction industry. We believe that drones equipped with (infrared) cameras can provide valuable information regarding both the progress of construction and about its result. With respect to the latter, drones can investigate, for instance, the thermal resistance of building skins or the condition of photovoltaic panels. Currently, we want to offer bachelor and master students to conduct their graduation project within the “Throw in the i-drone” research.

Project content

It is not an easy task to collect valuable and relevant data by controlling a drone in the careful and accurate manner. Pilots need to be properly trained. When using a drone to collect data for the thermal assessment of the building, they need to know what flaws in insulation and photovoltaic systems to look for and how to capture it on camera. We would like you to develop protocols that enables us and the construction industry to utilize infrared drones efficiently and effectively for the research and practical needs. Questions to be answered will be formulated by you. Examples of those questions can be: what distance is needed between a drone and the object under study? Under what angle do we need to take pictures of certain construction elements? How a drone should be surveying an object to efficiently capture all information needed?

Project organisation

This bachelor/master research project will be, regarding the supervision, mainly embedded in the department of Construction Management and Engineering. We understand that most students want and need to do their research project external to the university. We can envision (and will provide support) that the student could conduct this research by staying at an external organisation. The profile of the organization needs to encompass possibilities to contact multiple stakeholders in the construction industry to get the proper empirical information by means of surveys and/or interviews. One can think of consultancy firms, research institutes, and/or the government.



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