Graduation project

**Unmanned Cargo Aircraft and Infrastructure**

Autonomous transport is imminent. The Google and Tesla cars are in the news on a weekly basis. The transport-robots utilized by companies operating in the Maasvlakte have also become a common sight.

In the area of aviation, drones are known in particular for their military applications, but also for making aerial photography and footage.

The Netherlands Institute for Transport Policy Analysis (KiM), part of the Ministry of Infrastructure and the Environment (I&M) studies the possible consequences of the rise of several forms of autonomous traffic and transport. For aviation these are unmanned aircraft.

For the transport of cargo a distinction is made based on weight and the distance/flight duration. The package segment constitutes of parcels up to 5kg and a short flight duration/range. Multicopters are being tested by well known logistics firms such as DHL and Amazon. In the heavy cargo segment several aircraft configurations are being tested.

The required infrastructure plays a role in this. Autonomous transport by air will have a bigger chance to become widely used if it is possible to fly directly between businesses and distribution centers without the need for further pre- and post transport.

The question is what type of infrastructure is widely applicable to industrial estates and distribution centers regarding required/available space and has an acceptable environmental burden (noise / pollution). This results in a list of demands that an unmanned cargo aircraft being developed must adhere to. It also gives a global insight in the product-market combinations that can be served by unmanned cargo aircraft and the still to be developed infrastructure.

We are looking for a student graduating in Civil Engineering and Management who will perform an analysis of the most promising infrastructure concepts and illustrates this with an appealing design.

Interested parties can contact ir Hugo Gordijn from KiM and/or dr Hans Heerkens of the TU Twente.

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