

COWI Authorised to Use UAS for Commercial Purposes



COWI, headquartered in Denmark, has been authorised to use unmanned aircraft systems (UAS) for commercial purposes. The company believes that this will make airborne mapping of small geographical areas, recording of environmental changes in the landscape as well as energy-efficient renovation of buildings a lot easier in the future.

Gain overview image of a housing area after a flood, monitor rush-hour traffic or survey a field before starting of land development - with the innovative UAS technology, it has become easy to gain a quick overview of smaller geographical areas and not least document a development process over time, as the UAS are much faster and cheaper to get on the wings than the traditional aircraft that is normally used for aerial photography purposes.

A UAS is the perfect tool to give a quick here-and-now view of smaller geographical areas and hot-spots such as coastal stretches of sand drift, flooded areas or large construction sites. In principle, only the imagination limits the use of UAS, commented Jesper Falk, head of surveying at COWI Denmark.

The UAS in COWI are acquired to the benefit of the environment. They are small and battery powered and do not emit any CO₂, the company stated. Today COWI is using UAS for monitoring the vegetation of one of Denmark's endangered wetlands, which is under restoration. The modest size of the UAS make them suited to fly over landscapes and coastal areas, where it is difficult to get access, and they are very suitable to use for mapping and monitoring of the cities, which are often densely populated and crowded.

As one of the next steps, COWI will equip UAS with thermal infrared cameras that can detect heat emissions from buildings or district heating pipelines, and thus form the basis for efficient energy renovation.

The UAS's weight is 500 grams and the wingspan is one metre. The UAS is sent into the air with three shakes and a roll, and equipped with a camera; the UAS seeks 70 feet up in the air. After 30 minutes, a UAS automatically turns back to base with valuable data. In half an hour, the UAS can cover up to 20 kilometres. The plane is controlled from a laptop and a GPS detects where the photos are taken with an accuracy of up to 5cm. Based on the collected data, the computer can quickly generate overview images and digital terrain models of the overflowed area.

COWI has 40 years of experience in airborne mapping and in the production of detailed orthophotos and 3D terrain models. The UAS technology is a welcome addition to the traditional aircraft capacity, especially for mapping and monitoring of smaller geographical areas. COWI is one of the first consulting companies in Denmark to gain approval to use UAS for commercial purposes.