DRONIQ FOR FLIGHT

AERIAL PHOTOGRAPHY PER UAS

PROCESSING IN 3D POINT CLOUD

CONSTRUCTION DOCUMENTATION AND QUALITY ASSURANCE

OVER FRANKFURT/MAIN

DISPLAY THE AIR SITUATION

ABGnova

INSPECTION OF CONSTRUCTION SITES BY DRONE

The Objective Surveying and inspection of construction sites as well as checking the progress of construction work can be carried out faster, more accurately and economically more efficiently by drone. In practice, however, this is often more complex than theoretical considerations. Before take-off, flight permissions must be obtained, necessary documents such as UAS licences are submitted, projects outlined and collision risks excluded. Just then, if the drone is to take off in an inner-city area, there are strict conditions that must be met. The Frankfurt-based company ABGnova, a joint venture between ABG Frankfurt Holding and the regional energy supplier Mainova, already uses drones in its daily business. The service company from the fields of energy, housing and mobility relies on aerial photographs taken by drone for quality assurance, construction documentation and photovoltaic potential analysis.

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The implementation ABGnova regularly inspects various construction sites in Frankfurt to check and document the progress of construction work. Especially in inner-city areas, the requirements for drone flight are extremely high. To limit the safety risk in the air, ABGnova relies on the UTM service of Droniq. For ABGnova the use of UAS is a real efficiency gain: Within only two afternoons, twelve roofs could be flown over by drone - with conventional methods this would have cost two employees three days. In addition to this increased efficiency, the drone flight of ABGnova also opens the door to new technical applications. In the meantime, hundreds of photos of real estate are taken and a 3D point cloud is created from them. On this basis, potential analyses of photo-voltaic systems.

Our contribution Droniq provided the UTM service (UAS Traffic Management System) to display the air situation. For this purpose, the ABGnova drones were equipped with a "HOD4track" (Hook-on-Device), a small LTE module with integrated SIM card and GPS receiver. The HOD4track reported the current position of the aircraft to Droniq's UAS Traffic Management System (UTM) via the Deutsche Telekom mobile network. Via a web display, the drone pilot always received the current air picture with the live position of his drone. The UTM also displayed the position data of relevant manned and unmanned air traffic in the vicinity. Thanks to this combined air situation display, the UAS pilot of the ABGnova was able to react immediately to possible approaching rescue helicopters and land his aircraft accordingly - even before the aircraft was physically in sight.

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