DRONIQ FOR FLIGHT

PROJECT THYSSENGAS

INSPECTION OF GAS PIPELINES

THE OBJECTIVE Thyssengas is a gas transport network operator with a pipeline network of about 4200 km in Germany. Network operational reliability is the be-all and end-all for Thyssengas. This safety is ensured, among other things, by regular helicopter flights along the pipeline routes. This ensures early detection of hazards such as unannounced construction work along the pipeline route. This is a time-consuming and cost-intensive task, which is sometimes associated with considerable noise pollution for local residents. Since 2017, Thyssengas has been working on drone based route monitoring, starting in cooperation with DFS Deutsche Flugsicherung (DFS) and Deutsche Telekom, to improve the quality of network monitoring and reduce emissions and costs compared to helicopter flights. VTOL drones optimized for long-haul flights are used for image and video monitoring.

- SAFE REGULAR FLIGHT OPERATION
- 4200 KM GAS PIPELINES
- ALTITUDE APPROX. 100 METERS
- LIVE AIR-TRAFFIC-DISPLAY
- HAZARD MONITORING OF PIPELINES

DRONIQ

THE IMPLEMENTATION In addition to the use of drones for surveying in the planning and implementation of gas pipelines, Thyssengas plans to use drones to monitor large parts of its network in North Rhine-Westphalia and Lower Saxony by 2025. Thyssengas is currently flying a VTOL aircraft at an altitude of approx. 100 m and is monitoring route sections of between 70 and 150 km in BVLOS operation, mainly in suburban and rural areas. The photos and videos taken during the drone flight are evaluated with the aid of artificial intelligence. This is intended to automatically detect disturbances affecting the route (e.g. dredging activities, deposits). With the UTM service, Droniq supports the successful establishment of a safe regular flight operation.

OUR CONTRIBUTION Thyssengas is a longtime partner of Droniq and the first customer with whom the flying of gaspipelines by drone was tested even before the foundation of Droniq GmbH. To ensure that the remote pilot of the Thyssengas drone always has an live display of the air traffic in the vicinity, Droniq equipped the drone with a small LTE modem ("Hook-on-Device"), which sent its position to the UAS Traffic Management System (UTM) of DFS every second via the mobile network of Deutsche Telekom. A web-based display showed the drone pilot this position as well as the position data of relevant air traffic in the vicinity.

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