

AeroEnterprise
intelligent airborne inspection



6 Tips

**Inspection with Drones:
That's What Matters!**



TIPS ON SELECTING THE MOST SUITABLE DRONE INSPECTION PROVIDER

The possibilities of using drones for commercial application are increasing, due to the fact that digital data collection is used in many industries. Nevertheless, flying drones gets even easier by electronic support. But the requirements for a result-oriented drone operation are very high – especially in more difficult environments like on complex industrial plants.

The market offers a limited number of selected companies, which have experience to operate industrial inspections safely and tailored precisely to the customer's needs. We express recommendations – for large companies in particular – for criteria you should keep in mind, when selecting a drone inspection provider:



1) Look for an inspection provider, who is specialised on drone operations, but not an aerial photograph

Aerial photographs offer aerial images – which might be great for getting pictures or footage of your home. But a drone inspection provider has to fly really close to the particular object to gather detailed information about the condition of the surfaces and structures. Typically, this follows a CVI standard (close visual inspection). This procedure provides a solid base for making critical technical decisions regarding the surface areas and operational conditions.



2) In most cases you need images, not footage

Most companies, that are not able to cover the particularly important areas with images, make videos from a great distance. This is very easy to make and does not require any special knowledge. But note, that checking the footage for useful data retrospectively is very time-consuming and therefore takes much longer. Additionally, extracted images from video footage have a bad quality because of the lower resolution. Thus, these images have less informative value than images taken with high resolution cameras.



3) A drone pilot licence alone is not an indicator of the competences needed for complex inspection flights

Holding a drone licence does not automatically mean that the pilot can operate a complex flight-mission on an industrial site. One cannot gain a lot of experience by taking a one or several days course. Flying a drone in an open environment, as if taking pictures of the landscape, is easier than operations offshore or near high-voltage lines. Special trainings and experience are essential on complex industrial inspections. Therefore, the pilot has to be able to fly the drone fully manually, even without flight assistance like GPS positioning or attitude and altitude stabilisation. That's why you should choose a company which operates in different industries and regions, so that you can be sure that the flight abilities of the pilot are continuously trained.



4) You need an expert with industry expertise in his branch

It is of deciding importance to have an inspection provider who knows the required results of the particular object well. Ensure that an engineer or qualified expert is part of the inspection team on site and that the operation of the construction to be inspected is understood. It would be very expensive to get the inspection team on site once again if something important has been overlooked.



5) The most important point is an orientation on the object and the technical report

It is very important for the customers to get a good overview of the condition of the particular plant within a status report. Drones can acquire a huge volume of data. But no customer wants to get thousands of (raw) images on an USB stick as a result.

Hence, here are some essential points a quality report has to contain:

- The images have to meet a standard whereby the customers can recognize the condition of the structure.
- The most important damages can be identified, classified, defined and prioritised.
- You can perceive fast and easily what to focus on to initiate (preventive) maintenance.
- It is apparent on which position (like altitude, radius, location, reference etc.) the damages are.

Offline reports are fine but in times of sophisticated analysis and cloud solutions, condition monitoring of your plants requires more than that. Experienced and innovative UAV companies are able to provide a cloud based visual asset management software. This software can store many terabytes of data as well as analyse the data, so that the customer gets an easy to access and interpret report.

Essential for high-quality reports are image standards, identification and prioritisation of the defects as well as a clearly evident display of the defects for fast decision making



6) The experience and the scope matters

Before you start, ensure that your inspection provider has already conducted similar projects, for example by requesting references. For specific projects you need a company which can adapt to your individual needs and is able to make technical changes on the drone and sensors if necessary.

For further questions on inspection with drones or the technology of Aero Enterprise, contact us!

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