

Aibot X6

Because precision matters



Aibot X6

High-precision data from the air

Your global partner – Aibotix GmbH

Providing proven aerial technology solutions, Aibotix is a leading developer of professional unmanned aerial vehicles (UAVs). Founded in 2010 with headquarters in Kassel, Germany, we support professionals in the applications of mapping and surveying, industrial inspections, and agriculture and forestry. With our flagship Aibot X6, we offer a unique combination of autonomous flying robots, highly accurate sensors and intelligent software for the most accurate flight planning and data analysis.

Aibotix is part of Hexagon, a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications.

Hexagon's solutions integrate sensors, software, domain knowledge and customer workflows into intelligent information ecosystems that deliver actionable information. They are used in a broad range of vital industries. Hexagon (Nasdaq Stockholm: HEXA B) has more than 16,000 employees in 46 countries and net sales of approximately 3.0bn EUR. Learn more at www.hexagon.com.

Your working tool – Aibot X6

You will receive an industrial UAV for professional users. The Aibot X6 is used by industry and service companies on all continents. Customers such as surveyors, engineers, energy suppliers, construction and infrastructure companies, farmers and forest managers and aerial photographers rely on the Aibot X6 in their daily work. They can integrate the Aibot X6 directly in their workflows, and generate and evaluate data efficiently and easier.

The Aibot X6 hexacopter can carry extremely efficient sensors with a weight up to 2 kg that can be used both vertically and horizontally. Depending on the application of the Aibot X6, speed, height and the angle of the sensors can be automatically set to generate highly precise data.

Best-in-class service

All Aibot X6 are developed and manufactured in Germany at our headquarters in Kassel. Our production procedures correspond to the high standards of Hexagon and the robotic industry. All production and installation processes are standardised.

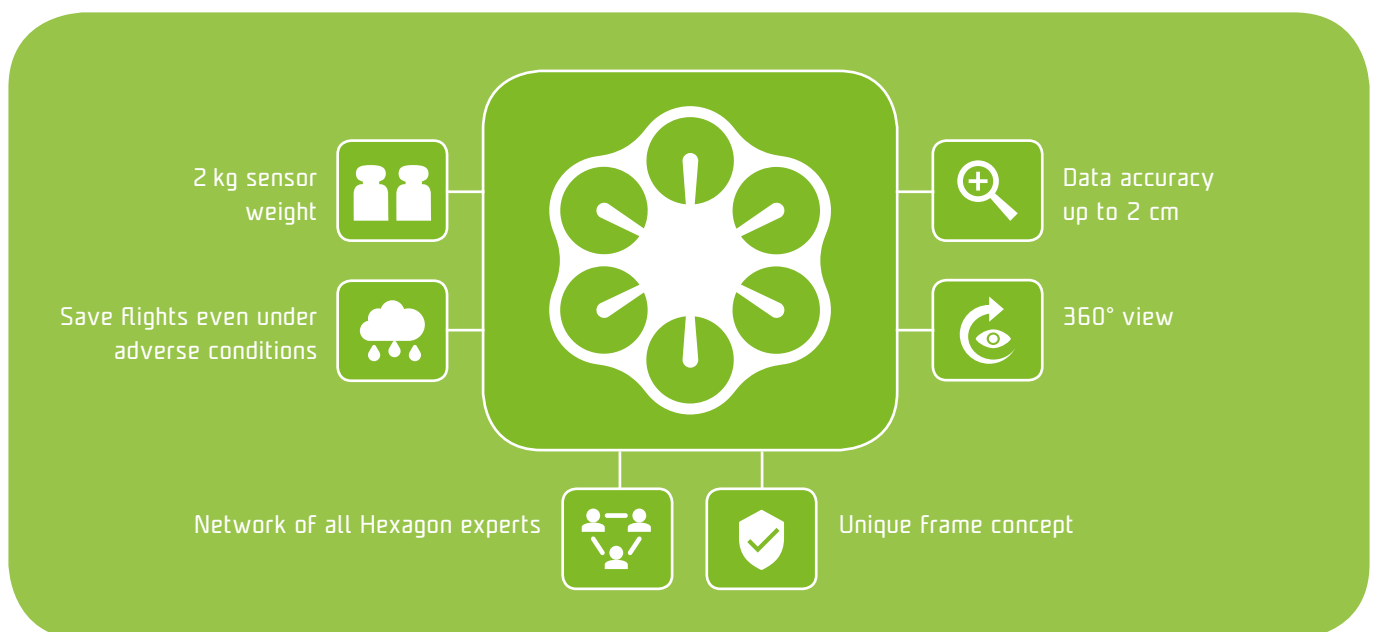


After production and before delivery to customers, all Aibot X6 UAV are subjected to a standardised approval procedure. The flight characteristics, electronic components, mechanics as well as the software are all rigorously tested. Even the test procedure itself is regularly subjected to a test in order to make use of up-to-date quality assurance methods. At the end of the tests the results are archived for every UAV.

We are committed to you and your UAV. Convincing results are provided even for special cases and exceptional requirements.

Your global contact

The global Aibotix partner network offers personal service and advice to customers all over the world.



The path to your data



Step 1 – Preparation

Depending on your task, the requirements are specified in the preparation phase. Flight parameters such as flight height, speed, overlapping of the sensor recordings and the distance of the resolution position, can be planned fast and efficiently using the professional Aibotix AiProFlight software. It is possible, to define a ground resolution of 1 to 4 mm per pixel for the standard camera system.

Step 2 – Flight planning

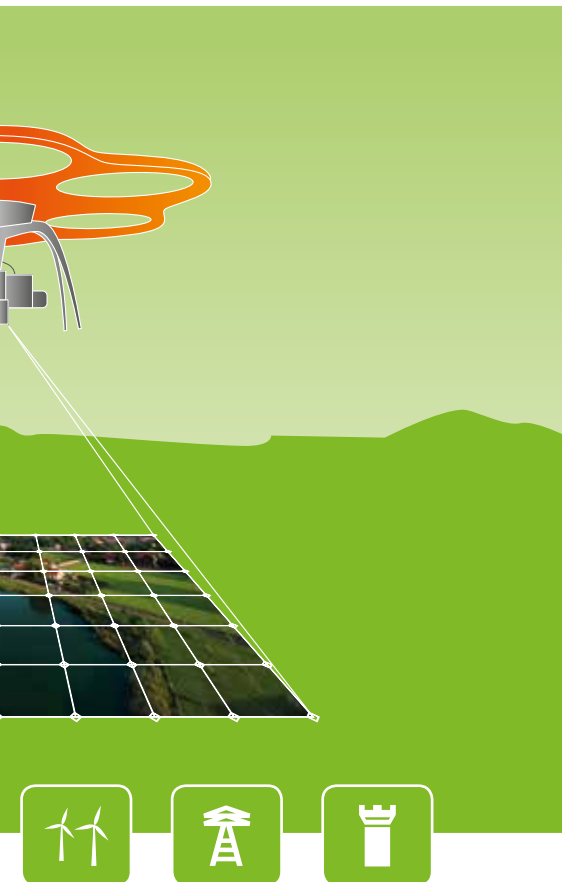
Decide how and to what accuracy the area is to be covered. For this purpose, a flight plan is created using the Aibotix AiProFlight in order to acquire the data. Flight direction, resolution, height, route and stereo overlapping are entered, and the corresponding object, area, field or plant is selected.



The flight plan is now created and saved by a simple click. Sensor parameters can be planned application-specific already.

Step 3 – Marking

In case that transformation is desired in a country coordinate system (Cartesian coordinate system), the control points must be marked. The marking is carried out by means of reference points, known as Ground Control Point (GCP), which are usually already available on site that are set manually before the flight. We recommend setting at least one GCP per hectare.



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Step 4 – Flight implementation

To generate the desired data the Aibot X6 can cover the area autonomously based on the previously defined flight plan, or manually. During the flight various sensors collect data such as GPS positioning or the orientation.

Step 5 – Processing the data

The data gathered by the Aibot X6 can be imported directly after the flight into the Aerial Image Manager (AIM) or other data evaluation tools. Depending on the application, the data can be prepared for further processing in successive software solutions. This allows the georeferencing of picture data as well as the preparation for processing in CAD programmes.

Step 6 – Results

The application-dependent results can be archived or transferred in further workflows. Orthophotos, 3D models, thermal analysis, or the evaluated hyper or multispectral data offer the basis to accelerate the decision processes as well as action planning.



Technology



Maximum safety with the carbon frame

Positioning-LED

High quality engines

Ultrasonic sensors

Flight control

LVP, TR & Video IN

Various sensors

Gimbal

Live video antenna

Sensors

The Aibot X6 can be combined with many different sensors, becoming indispensable in several application areas.



Compact cameras and compact video cameras up to 4k:

Make use of the 2-axis gimbal with servo motors to take pictures from compact photo and video camera systems.



Thermal and infrared sensors:

Use these sensors for applications in the field of inspection, agriculture and forestry, or monitoring.



Digital system cameras and Full Format cameras:

Taking high-resolution photos for textures of 3D models, inspection applications or aerial photos are possible with these sensors.



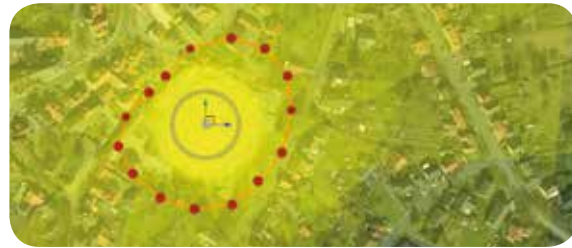
Hyper and multispectral sensors:

Questions related to agriculture and forestry can be addressed with our high-accuracy sensors in the hyper- and multispectral range.

Software & results

Flight planning:

In the autonomous flight mode, the Aibot X6 can fly between selected way-points. The route planned with the Aibotix AiProFlight software is transferred wirelessly to the Aibot X6. With the aid of the pre-planned routes, the Aibot X6 can carry out any sort of inspections and overflights without manual control.



After the flight:

Data can be further processed with software solutions such as:

- Aerial Image Manager (AIM)
- Agisoft PhotoScan Pro
- Enso
- ERDAS Imagine
- optris PI Connect
- Hyperspec III
- AutoCAD
- and many more

Output formats:

- .tiff
- .png
- .kml
- .obj
- .las
- .laz
- .ply
- .ascii
- .shp
- .dxf
- .tif
- and many more



Advantages & application areas

Advantages:

- Access hard-to-reach areas easily from the air
- Save time and costs, since flying with the Aibot X6 is faster and more affordable than conventional data generation methods
- Increase the safety of your employees
- Obtain, high-grade, precise results

Application areas:

- Measuring various objects such as quarries, sand pits, landfills, coal pits, etc.
- Scatter diagram generation
- Volume calculations
- DGM-creation
- Creation of layouts and as-completed plans
- Creation of topographical photos
- Creation of planning foundation
- Construction progress documentation
- Urban measurements
- Inspection of large plants and buildings
- Use in agriculture and forestry
- Use in catastrophe protection

Experts for professionals



Tel: +49 (0) 561 473 949 0 E-Mail: sales@aibotix.com

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Mapping & surveying



Monitoring



Industrial inspection



Agriculture & Forestry



Special requests



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Kuker-Ranken Inc.
Seattle - 1-800-454-1310
Tacoma - 1-888-562-3082
Portland - 800- 472- 7007
Salt Lake City - 801-878-9763
Las Vegas - 702-604-1872
www.krinc.net