FIXAR™

FIXAR 007 PRODUCT CATALOGUE

COST-EFFECTIVE DRONE SOLUTION
FOR EACH JOB

MEET FIXAR 007

The FIXAR 007 is a fully autonomous, fixed-wing VTOL (vertical take-off and landing) drone designed to meet the needs of a wide variety of commercial and industrial applications.

The versatile FIXAR 007 model offers a broad array of payloads such as high-quality RGB, multispectral camera, LiDAR, customized parcel delivery module, and more based on real tasks. The high payload capacity of up to 2 kg (4.4 lbs) in combination with high endurance of up to 60 km (37.2 mi) allows it to accomplish mission objectives faster and cost-efficiently.

An easy-to-use proprietary xGroundControl software with a 3D interface ensures a smooth and pleasant drone operation experience without the requirement for special piloting skills. The xGroundControl works with the closed-source Autopilot providing the fail-safe flight planning and managing system.

MAXIMIZED EFFICIENCY

- Cost savings up to 35% compared to other drone solutions on market
- Innovative & proven technology to gain the competitive edge
- Up to 60 min flight time and 2 kg (4.4 lbs) payload capacity
- High maneuverability
- Extreme resistance to severe weather conditions

END-TO-END INTEGRATED SOLUTION

- Ready-to-fly , all-in-one solution
- Swappable payload module ensures FIXAR 007 can be used for multiple tasks
- Easy to operate: 2 minutes and 9 clicks to launch a mission
- 12-month/ 80 flights warranty period and world-class technical and operational support
- Comprehensive 2-day training program

RELIABLE TECHNOLOGY

- Stress free, fully autonomous mode flight
- Autonomous take-off & landing even over unstructured terrain
- Protection from strong electromagnetic fields
- Ensured mission data security
- VLOS and BVLOS solution
- BlackBox module for data logging

AERIAL PHOTOGRAPHY WITH RGB CAMERA PAYLOADS

When it comes to terrain inspections and surveying, accuracy and user-friendliness are key factors. Field work requires long man-hours, extending any project timeline and resulting in higher costs.

FIXAR 007 systems have a working payload capacity of 2 kg (4.4 lbs), with a spacious and easily adaptable payload bay. As a result it is easy to set up a line-up of sensors in order to capture more data with fewer flights and in a more time and cost efficient way.

AERIAL PHOTOGRAPHY WITH RGB CAMERA PAYLOADS

“First of all this UAV fixes the major issues of working with both the fixed-wing and multirotor models. It is quickly and easily assembled within 2 minutes by simply taking it out of the box, snapping on wings and installing the battery.”

Philippe Saint-Martin
CEO, VideoDrone

Key Advantages:

- Vast mapping coverage capacity
- Accurate dataset down to 1 cm/px (0.4 in/px) with PPK
- Swappable payload module
- Broad array of payloads available
- High quality images at 50-5000 m (65 -14763 ft) altitude range

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Compatible with most popular photogrammetry software available in the market: Agisoft Metashape, Pix4D mapper, Bentley ContextCapture, DroneDeploy, etc.

Applications:

- Cadastral surveying
- Mining and aggregates
- Topographical surveys
- Urban planning
- Construction site monitoring
- Precision agriculture

Advanced RGB cameras for excellent results

Easy and convenient integration with RGB cameras allow surveyors to capture data more accurately in a single flight. FIXAR integrated high-resolution cameras provide higher accuracy and a better precision at higher altitudes, thus covering larger areas in a shorter time.

Sony Alpha A6000

Effective Megapixels: 24.3

Image Sensor: 15.6 x 23.5 mm

Total Memory Capacity: 64 Gb

Camera Weight: 344g

Sony RX1 RM2

Effective Megapixels: 42.4

Image Sensor: 35.9 x 24 mm

FULL FRAME

Total Memory Capacity: 128 Gb

Camera Weight: 480-507g

Foxtech Map-A7R II

Effective Megapixels: 42.4

Image Sensor: 35.9 x 24 mm

FULL FRAME

Total Memory Capacity: 64 Gb

Camera Weight: 280g (standard version) / 345g (PSDK) / 510g (Gimbal Version)

FOXTECH 3DM V3 Oblique Camera

Sensor: APS-C CMOS (23.5X15.6mm)

Oblique Lens Angle: 45 degree

Total Memory Capacity: 320 Gb

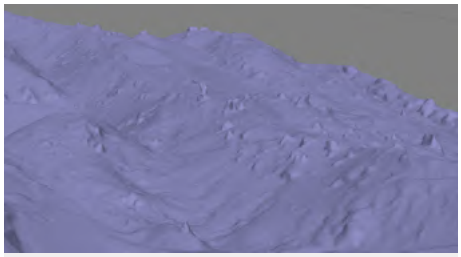
Weight: 683g

Additional onboard PPK GNSS equipment available, thus ensuring accurate geo-tagging

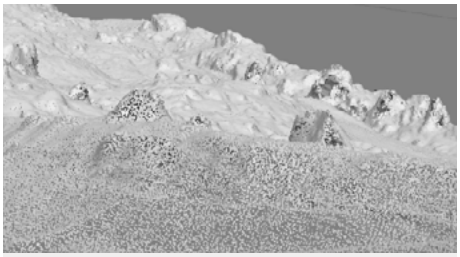
AERIAL PHOTOGRAPHY WITH RGB CAMERA PAYLOADS

What kind of outputs you can get from survey datasets:

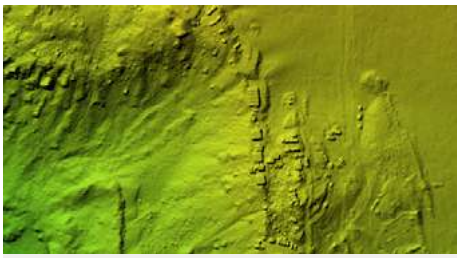
Orthomosaics



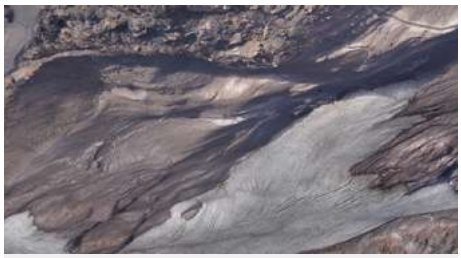
3D models



Point clouds



Digital elevation models (DSM/DTM)



Tiled models

Increased safety and accuracy with PPK module:

FIXAR 007 aircraft can be equipped with optional PPK (Post-Processed Kinematic) functionality. The onboard PPK module guarantees outstanding positioning with centimeter accuracy of the obtained data for precise UAV mapping with fewer GCPs. Such a technology greatly simplifies the process of mapping and surveying, optimizing the time spent on-site and eliminating possible related risks to the crew in remote locations.

Onbboard GNSS equipment

Accuracy XYZ: 3-5 cm

GNSS receiver type: L1/L2 GNSS

Number of channels: 184

Supported Satellites: GPS, GLONASS, BeiDou, Galileo, SBAS

Better image accuracy

Reduced time on site

Increased safety for a ground team

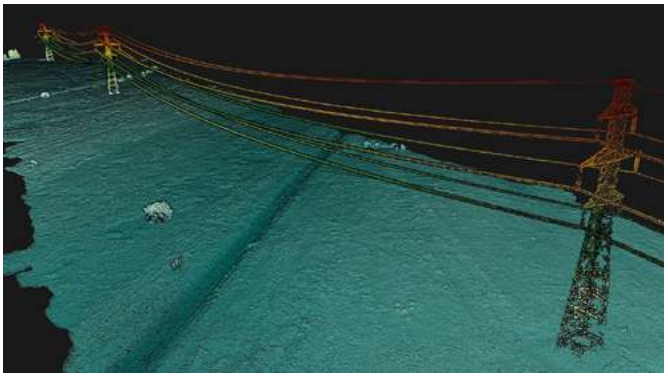
LASER SCANNING WITH LiDAR

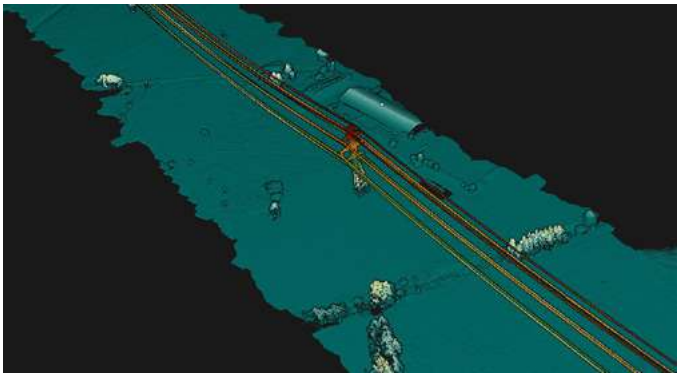
GET 6-HOUR JOB DONE IN 35 MINUTES

Aerial laser scanning of terrain with the use of FIXAR 007 is one of the fastest and most precise methods to obtain data on the true surface of the earth, particularly, in remote locations and forested areas.

Following innovations and developments from leading LiDAR manufacturers such as Velodyne, the cost and size of the equipment has decreased allowing the laser scanning system to be integrated with the FIXAR 007 UAV platform, obtaining as a result a precise and accurate 3D point cloud with reference to the GPS coordinates.

LASER SCANNING WITH LiDAR





3D point cloud of powerlines collected with FIXAR 007 equipped with YellowScan Mapper+OEM and processed with YellowScan CloudStation.

Key Advantages:

- High precision outputs for data-driven decision making
- Innovative technology to gain the competitive edge
- Day-to-day workflow improvement
- Time savings: 10x faster than with an average multirotor drone
- Unlocked access to remote areas

Applications:

- Forestry
- Precision agriculture
- Monitoring of power transmission lines
- Mining and aggregates
- Construction
- Archaeology

Payload: YellowScan Mapper+OEM

YellowScan Mapper+ OEM is the next generation of integrated lidar solution with Livox and Applanix technology.

This LiDAR System is particularly lightweight with long range capabilities, high-end point density, as well as advanced accuracy and precision for easy and fast UAV LiDAR mapping.

Technical specifications:

Laser Scanner: LIVOX AVIA
AGL recommended: 100m
Precision (1): 2.5 cm
Accuracy (2): 3 cm
Scanner field of view: 70.4°
Shots per second: 240k
Echoes per shot: Up to 3

(1) Precision, also called reproducibility or repeatability, accounts for the variation in successive measurements taken on the same target. Here precision value is obtained by averaging the precision from 3 flight levels @60, 90 and 120mAGL. At each flight level, the precision is considered as the mean value of absolute elevation differences between 2 flight lines recorded in opposite directions over a nadir-located 40m² hard surface area.

AGRICULTURAL SOLUTIONS

More and more farmers and agricultural professionals worldwide experience and take advantage of new opportunities that drone operation in the agricultural industry offer. FIXAR aims to lead this field and its integrated UAV platforms simplify the work, increase efficiency, save time and money.

Sustainable UAV Solution for Biological Plant Protection

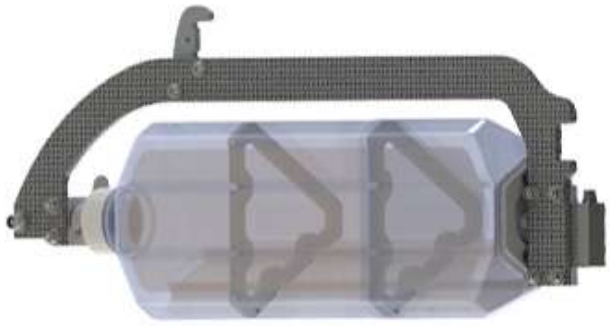
A custom-made dispenser for biological crop protection is integrated with FIXAR xGroundControl software allowing to control and amount of the agriculture product. The dispenser was designed to accommodate granular treatment products like beneficial insects (Trichogramma) thus reducing the use of chemical pesticides.

Key Advantages:

- Targets a specific area for bio production distribution
- Accomplish agricultural operations much cheaper and efficiently than traditional methods
- Eliminate the need to use of chemical products
- Safe for human health and the environment
- Covers up to 50 ha/h (124 ac/h) even at low heights (15-20 m/ 49-66 ft)

Payload Module:

Proprietary dispenser for granular bio protection distribution. Volume: 900 ml (30.4 oz) x2 pieces



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Successfully tested on agricultural fields with more than 2500 ha (6177 ac).

FIXAR 007 for Vegetation Mapping

FIXAR 007 integrated with RedEdge-MX provides a complete solution for processing, storage, presentation and analysis of multispectral data. This solution provides a cost-effective gathering of crop health information without the need for a satellite connection or the related high costs of a manned-aircraft flight.

Key Advantages:

- Pests, diseases and weeds identification and monitoring
- Provide data on soil fertility and refine fertilization by detecting nutrient deficiencies
- Agricultural and forestry field analysis providing a precise plant count and determining possible plant spacing problems and population issues
- FIXAR drone covers up to 500 ha/h (1236 ac/h) = less than 1 h for 100 ha (247 ac)

Payload Sensor:

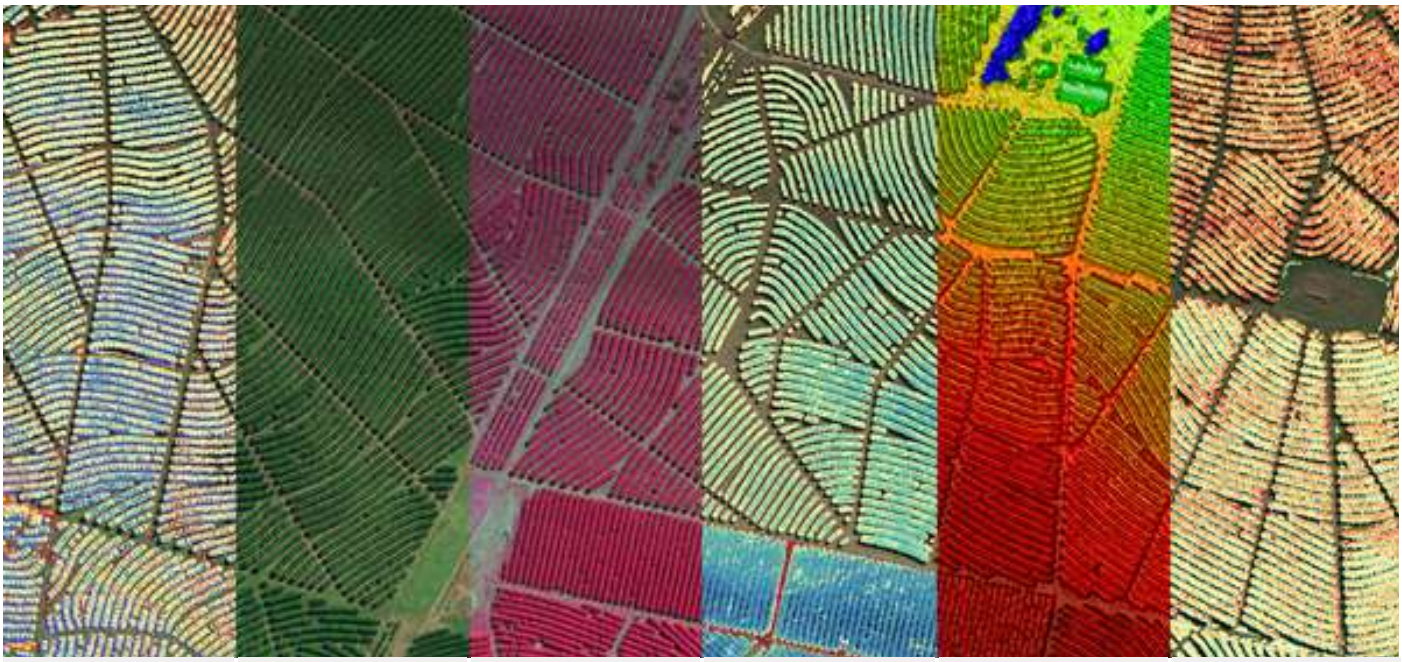
Multispectral camera MicaSense RedEdge-MX

Weight: 231.9 g

GSD: 8 cm per pixel (per band) at 120 m (~400 ft) AGL

Capture rate: 1 capture per second (all bands), 12-bit RAW

Outputs:



Normalized difference red edge index (NDRE)	RGB	Color Infrared – Vegetation (CIR)	Normalized Difference Vegetation Index (NDV)	Digital Surface Model (DSM)	Chlorophyll Map

*Images: courtesy of MicaSense

LAST-MILE DELIVERY SYSTEM

Delivery in its traditional state refers to the movement of products from one point to another, e.g., from warehouse to a store, or their final destination. Commercial drones are solving common issues with traditional modes of delivery by reducing transport time, providing access to remote areas, and giving freedom from common delays from ground transport.

They also allow to reduce courier costs related to vehicle repair and fuel expenses. Furthermore, drone deliveries can tackle healthcare challenges when dealing with time-critical medical supplies or samples for lab tests.

Commercial drones are a real part of the logistics world that find and answer to common or complex issues with traditional modes of delivery by reducing transport time, providing access to remote areas, and giving the freedom from usual delays present in ground transport. FIXAR 007 UAV based-solution will deliver packages up to 2 kg (4.4 lbs) following a multi-delivery point route.
The FIXAR 007 drone has an automatic parcel release system allowing it to be dropped at a per-planned coordinates or under the direct command from the drone operator.

LAST-MILE DELIVERY SYSTEM

“Together with FIXAR, we have tested the possibility of using drones to deliver small packages directly to customers. It was an interesting and unique experience and showed great benefits for this delivery method, which has the potential to enable ultra-fast deliveries on orders made online.”

Andrejs Erkins
Head of Marketing at Jysk Latvia - The largest Danish retailer operating internationally

Key Advantages:

- Faster and cheaper fulfillment
- Lower shipping and administration costs
- Last-mile connectivity to remote locations
- Environment-friendly

Payload Options:

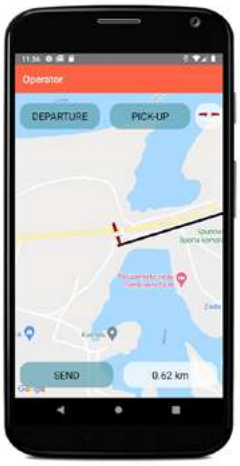
Customized module designed for the transportation of medical products

Customized canister for the transportation of documents

Customized case for critical medicine deliveries.

Proprietary FIXAR Delivery app for Android and iOS.

Track the flight mission, deliver the product to the customer, and send the drone back in one mobile app.



1. Choose start and end point of the delivery route
2. Press “SEND” button
3. Flight request is transferred to xGCS and FIXAR starts the mission
4. Once the package is delivered, FIXAR goes back to the starting point

REAL-TIME VIDEO MONITORING

FIXAR 007 for real-time monitoring extends the observation range and provides quick responsiveness for public security monitoring purposes, electricity infrastructures inspection, search and rescue (SAR) operations, remote sensing mapping, research and exploration and many other types of UAV missions. Robust end-to-end solution, a fully autonomous FIXAR 007 drone in configuration with Gimbal video camera. The convenient integration with the video transmission system provides a smooth control over the video camera and enables superior images day and night.

REAL-TIME VIDEO MONITORING

Key Advantages:

- Fast response solution for urgent data collection
- 2 minutes and 9 clicks to launch a mission
- No additional equipment for launching, landing and maintenance
- Swappable payload module: one drone for different cameras
- Reduces costs without the need to use several cameras or a security team

Applications:

- Critical infrastructure monitoring
- Security & surveillance
- Oil & gas sites monitoring
- Power line and pipeline inspection
- Railway monitoring
- Traffic management
- Insurance claim inspections

Sophisticated Real-Time Monitoring cameras

Tarot Peeper HD 10X Optical Zoom

TAROT PEEPER T10X is a great 3-axis gimbal for model aircraft enthusiasts,it provides a 10X optical zoom. The F2.0 uses 1/3 colour CMOS4 image sensor which supports approx. 4 million effective pixels (2688 x 1520). Total weight (gimbal and camera): 365g

Sky Eye-I 1080P 10X Zoom

Sky Eye-I 1080P is a gimbal designed for 10X zoom camera. It is able to take and record 1080p 30 fps video to an on board TF card, giving you a stable eye in the sky that can cover a large amount of ground quickly and effectively. Total weight (gimbal and camera): 430g

Eagle Eye-10IE 10X EO/IR Dual Sensor

Eagle Eye-10IE is a 3-axis high stabilized Thermal camera with EO(electro-optical) and IR(infrared) sensors. The 10X zoom camera provides 1080P 60FPS full HD video streaming and up to 120X zoom capability. Eagle Eye-10IE is using the most advanced thermal tracking technology, with which you will never lose the object. Total weight (gimbal and camera): 879g

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To receive a quote, schedule an online meeting, training or real-time demonstration, please contact us via www.fixar.pro or drop us an email sales@fixar.pro

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FOR COMMERCIAL OPERATIONS