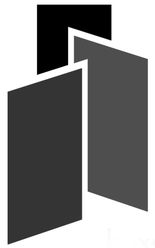


boxout production

Specialist of Unmanned Aircraft System

Unmanned Aircraft System
Business Solution

The “Drone Solution” we offer provides businesses across different industries a unique perspective to problems through UAS.

Boxout Production is a team of specialists with expertise in operating Unmanned Aircraft Systems (UAS) or Small Unmanned Aircraft (SUA), commonly known as “Drone". We are Remote Pilots and instructors who are assessed and recognised by Civil Aviation Department (CAD) in the operation of UAS, with Remote Pilot Certificate with Advanced Rating issued by CAD and Remote Pilot Certificate issued by DJI Academy.

Cap. 448G, The Small Unmanned Aircraft Order will be effective in June 2022. Under the new regulations, safety requirements such as registration, weight, flying altitude will be tightened. With our expertise and experience, we have confidence to handle these with professional operation manual and flight plan to apply CAD permission.

We discern the technical limitations to the way reliable information can be obtained from being earthbound, which is why **we believe UAS is the key to future data collection for it will no longer be limited by physical and geographical capabilities.** On top of that, the autonomous nature of drones can significantly minimise the associated labour and time costs.

We are eager to explore the possibilities for UAS.

Make It Easier

boxout production

Thriving since 2019

Oil

CONSTRUCTION INDUSTRY COUNCIL 建造業議會

領展 LINK

LAI SUN GROUP 麗新集團

LAN KWAI FONG 蘭桂坊 CAPITAL

HKFYG 青協

香港科學館 HONG KONG SCIENCE MUSEUM

EarUp MUSIC

New Life Psychiatric Rehabilitation Association 新生精神康復會

1121

香港舞蹈團 Hong Kong Dance Company Since 1981

十下創作 IOIO CREATIVE

民航處 CIVIL AVIATION DEPARTMENT

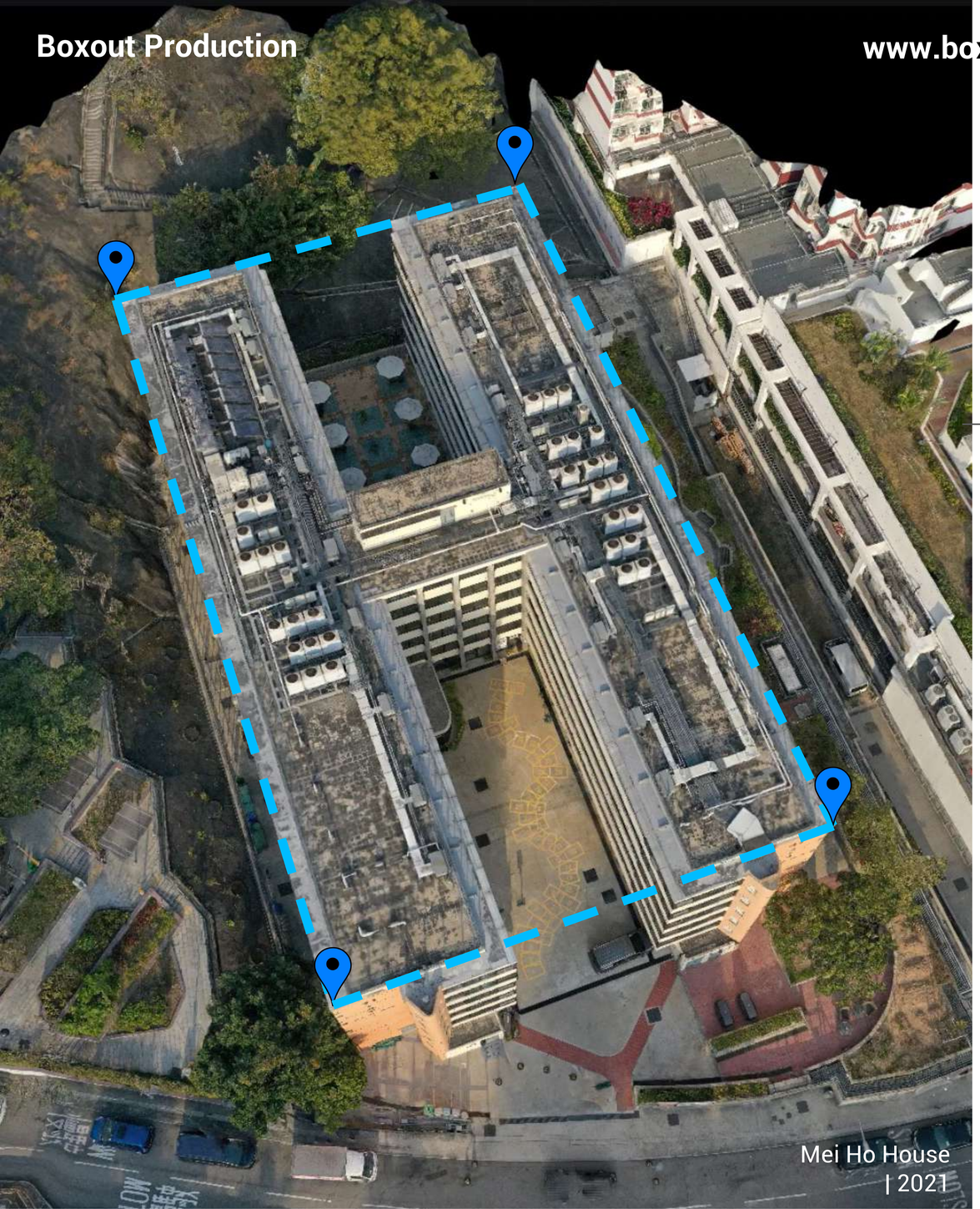
非常香港 very Hong Kong

青・山・醫・院 Castle Peak Hospital

LQ

AUTODESK Authorized Training Center

UTC | DJI ACADEMY



Industry 4.0

Data, Robotics, Autonomy, IoT

Industry 4.0 concepts and technologies can be applied in all types of industry. Companies are revolutionized in the manufacturing, improvement and distribution. Integrating with cloud computing and analytics, AI and machine learning, data and smart facilities become more important in predictive maintenance, 3D printing and problem solving.

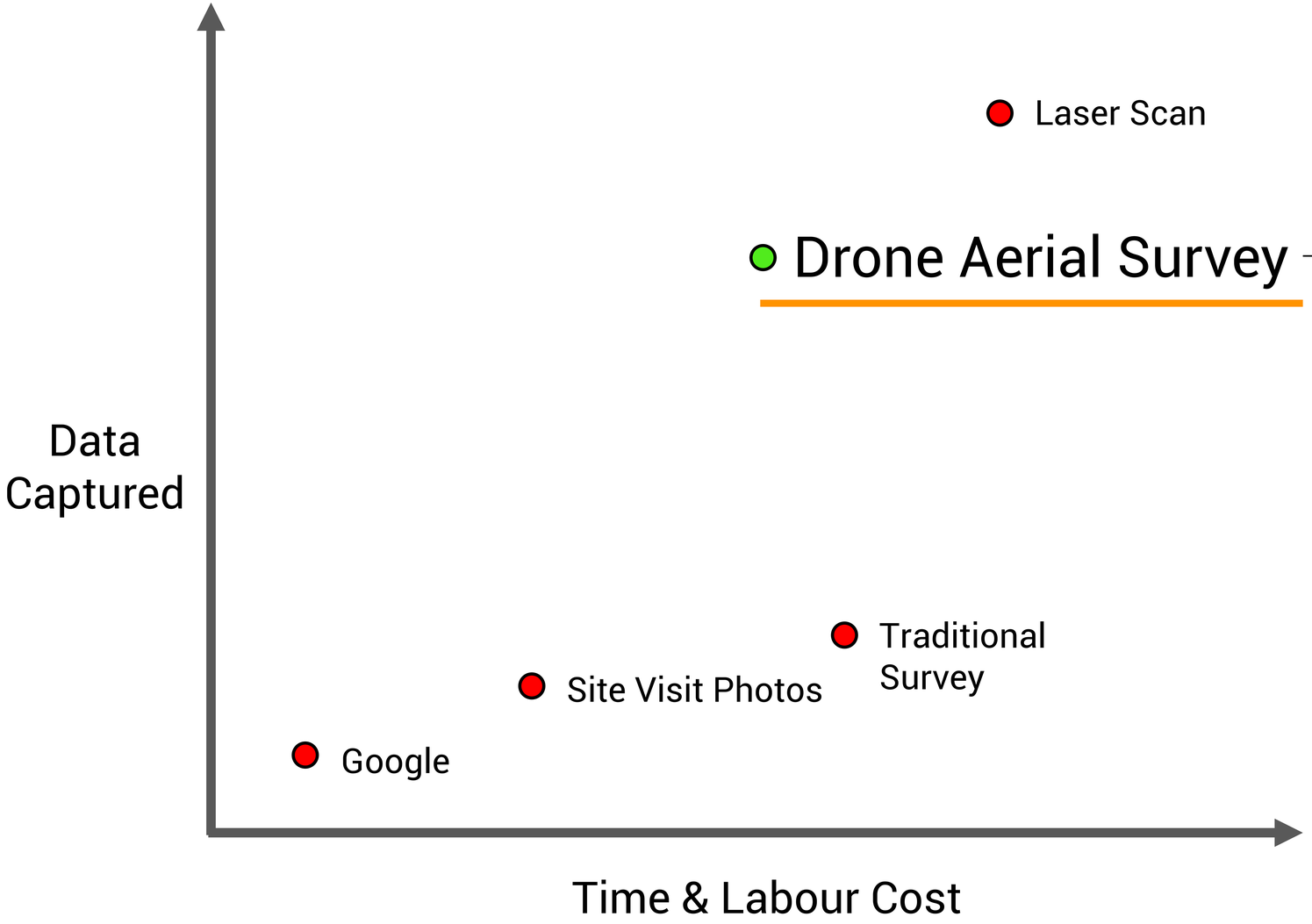
The smart devices are equipped with sensors and payloads, embedded software and robotics to collect and analyse data. The visualised data plays an import role in offering materials to machine learning system, to achieve the target of cost-effective and time saving.

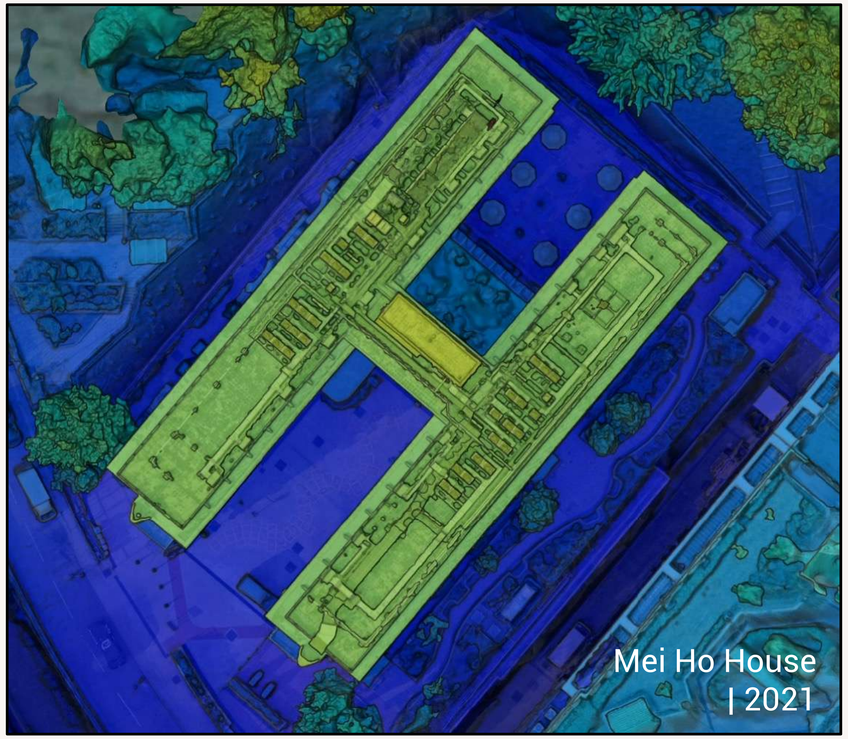
In order to catch this opportunity and trend, strategic smart solutions are essential to each company and enterprise. And that's what we offer through UAS.

So what can UAS bring to you?

Accurate
Efficient
Cost Effective

Why UAS? – Accurate, Efficient & Cost Effective

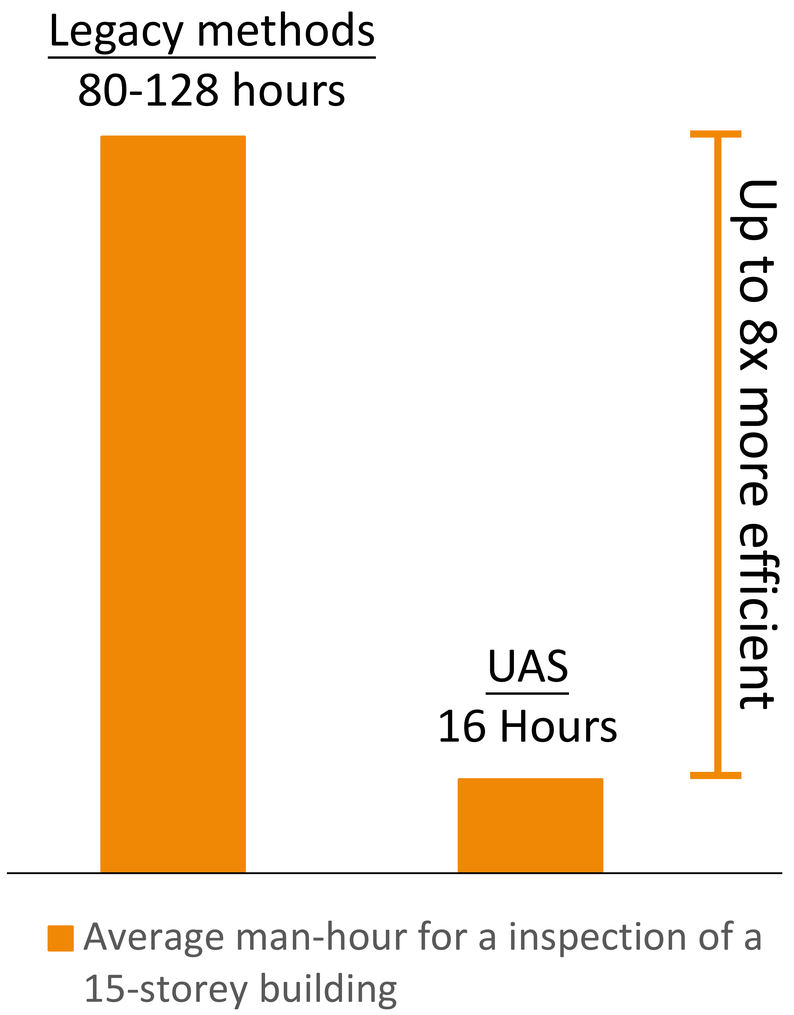




Study shows the survey-grade drone can deliver 2cm relative vertical accuracy and 1.20cm relative horizontal accuracy.

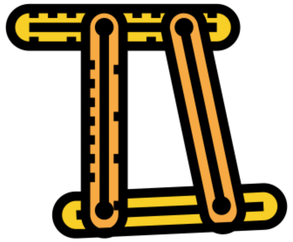
Why UAS? – Accurate, Efficient & Cost Effective

Area: 300x100m	**GNSS**	**Tacheometer**	**UAS with RTK**
Time needed	2-3 hours	5-6 hours	20 minutes
Accuracy	2-3 cm	5 mm	2-3 cm
Operation Cost	3x more expensive vs UAS	4x more expensive vs UAS	3-4x cheaper vs other methods
Safety Aspects	Required to physically move around the site	Required to physically move around the site	Able to operate from a safe distance



Information from DJI Enterprise Website

What we offer



Aerial Inspection & Surveying

Collection of geomatics or other imagery for specific sites and buildings.

Provide accurately measured data such as volume, degree of a slope, and distance for better planning of constructions.

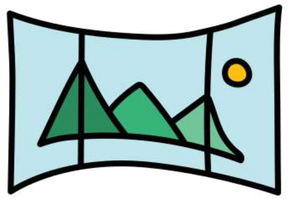
3D Modelling

Comprehensive and real-time status updates of sites and buildings for planning and the monitoring of progress for construction works.

Point Cloud Model can be accessed as BIM through AutoCAD, Revit, Civil 3D, or other modeling software to maximize productivity.

Aerial Thermography

Inspections with infrared cameras to quickly and easily identify irregular temperature difference and indicate insulation.



360 Virtual Tour

It is created by 360 panoramic photos. We can do in both indoor and aerial, bringing audience from exterior to interior, a tour without physical appearance in this COVID-19 pandemic.

Aerial Inspection & Surveying

The hi-res photos and data with Geographical Information System (GIS) collected can help generate a detailed and comprehensive site overview, especially in 2D Mapping, which is crucial to operations in vast area, such as urban planning, reclamation, and rural development, where accuracy can be of utmost important. The data of landscape and big area helps a lot in design and planning.

The non-intrusive nature of survey drones are also proven to be essential for data collection and inspection in densely populated cities, as infill development is a common phenomenon.

Progress monitoring is another common use of UAS. Instead of performing safety checks upon random occurrences, drones can be deployed on regular schedules for safety inspection and identify potential risks in advance.

Radio Television Hong Kong
Education Television Centre
| 2021

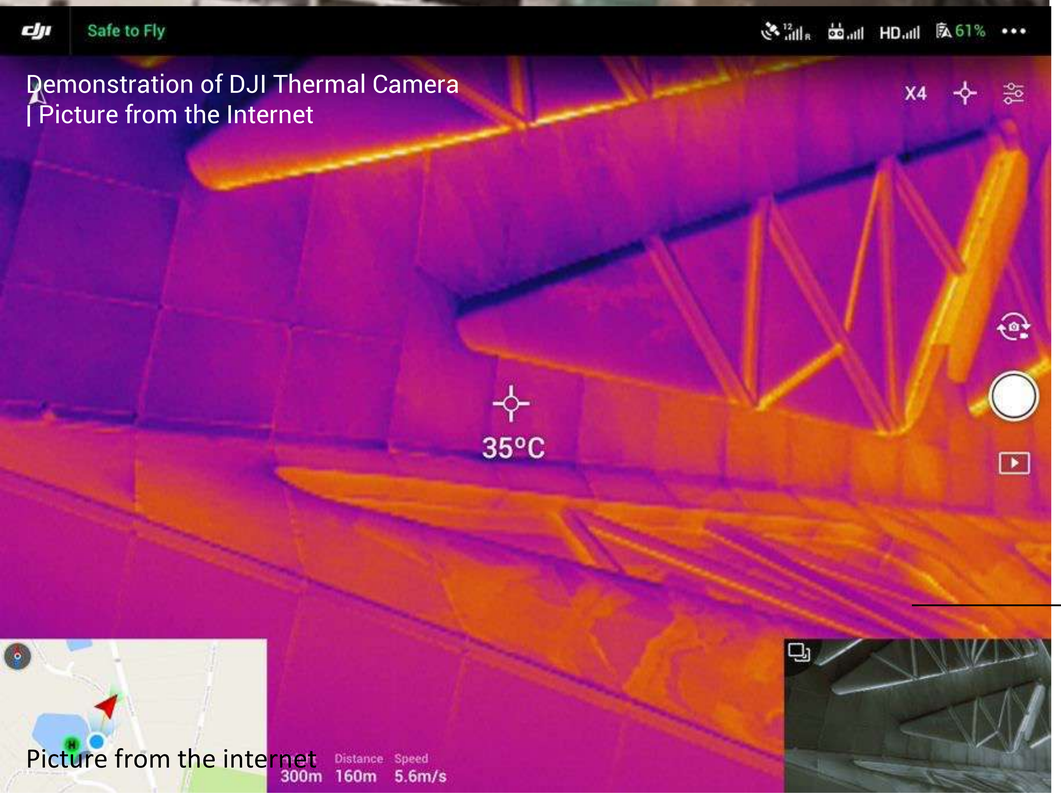
3D Modeling

Compared to flat floor plan, a comprehensive 3D model allows users to move around and zoom to view the building from different angles. In addition, the photorealistic models allows for improved visualization for the finished building or project, which enhances efficiency for urban planning and architectural designs, and importantly for presentations. The model can assist the future maintenance and management of the architecture, and meanwhile facilitate information sharing.

To create BIM, data can be imported to Autodesk or other for further modifications.

REVIT

Gondola Accident
by Typhoon Hato | 2017



Demonstration of DJI Thermal Camera
| Picture from the Internet

Infrared Camera on UAS

Picture from the internet

Thermography

Seeing the Unseen

Thermographic inspections can identify the fault in the system through locating irregularity and difference in temperature. It is commonly used in safety inspection of buildings such as pipes checking for water leakage, which facilitates property owners in recognizing the issue sooner.

Hong Kong is well-known for its tall and densely built-up area, with piping systems usually covering the external building structure. Instead of manually checking, which can be impose immense risk on workers with use of the bamboo scaffolds and gondola, inspection with drones are deemed safer and cost-efficient.

Online photo

Bamboo scaffolds Accident in Tsuen Wan | 2021

Maintenance - Building Safety

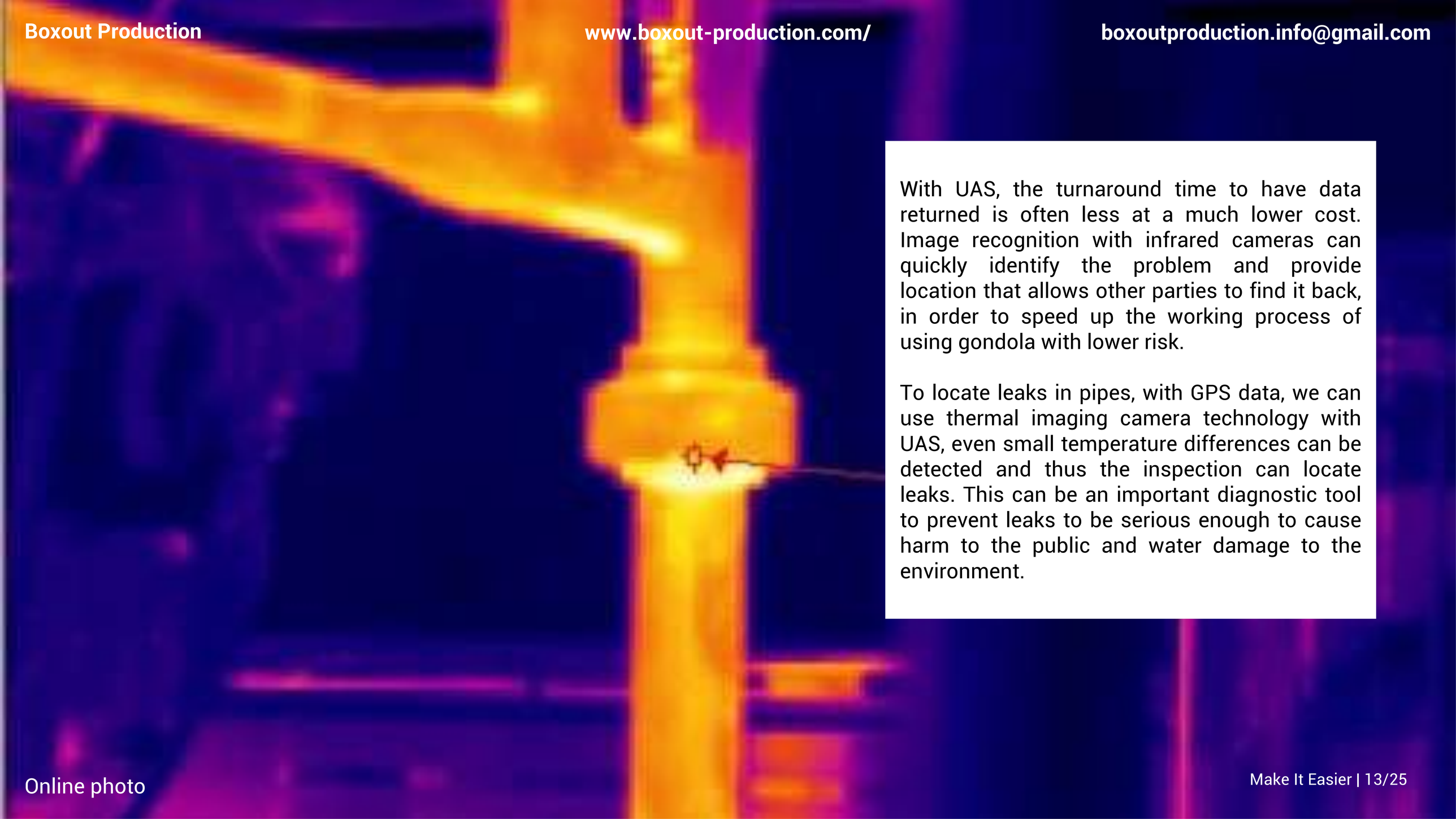
Defective Drainage & Building Defects

Ageing and degradation of the buildings required maintenance. Current inspection is done by workers manually in gondola and bamboo scaffolds, it takes weeks or months to get data, despite high costs, time consuming and high risk. Meanwhile, buildings in Hong Kong are sky-high and existence of typhoon is common and that can be catastrophic.

Building Department encourage building owners, owners' corporations and building management and maintenance personnel to have regular inspection on the drainage systems, sanitary fitments and defects of their buildings to make sure that they are in good working condition.

Defective drainage systems and building defects can be found due to ageing and deterioration in different forms and to different extents in all types of buildings, irrespective of age.

Building owners have the responsibility to regularly inspect and maintain their buildings in a safe and good condition in order to help create a safe and healthy living environment.



With UAS, the turnaround time to have data returned is often less at a much lower cost. Image recognition with infrared cameras can quickly identify the problem and provide location that allows other parties to find it back, in order to speed up the working process of using gondola with lower risk.

To locate leaks in pipes, with GPS data, we can use thermal imaging camera technology with UAS, even small temperature differences can be detected and thus the inspection can locate leaks. This can be an important diagnostic tool to prevent leaks to be serious enough to cause harm to the public and water damage to the environment.

Online photo

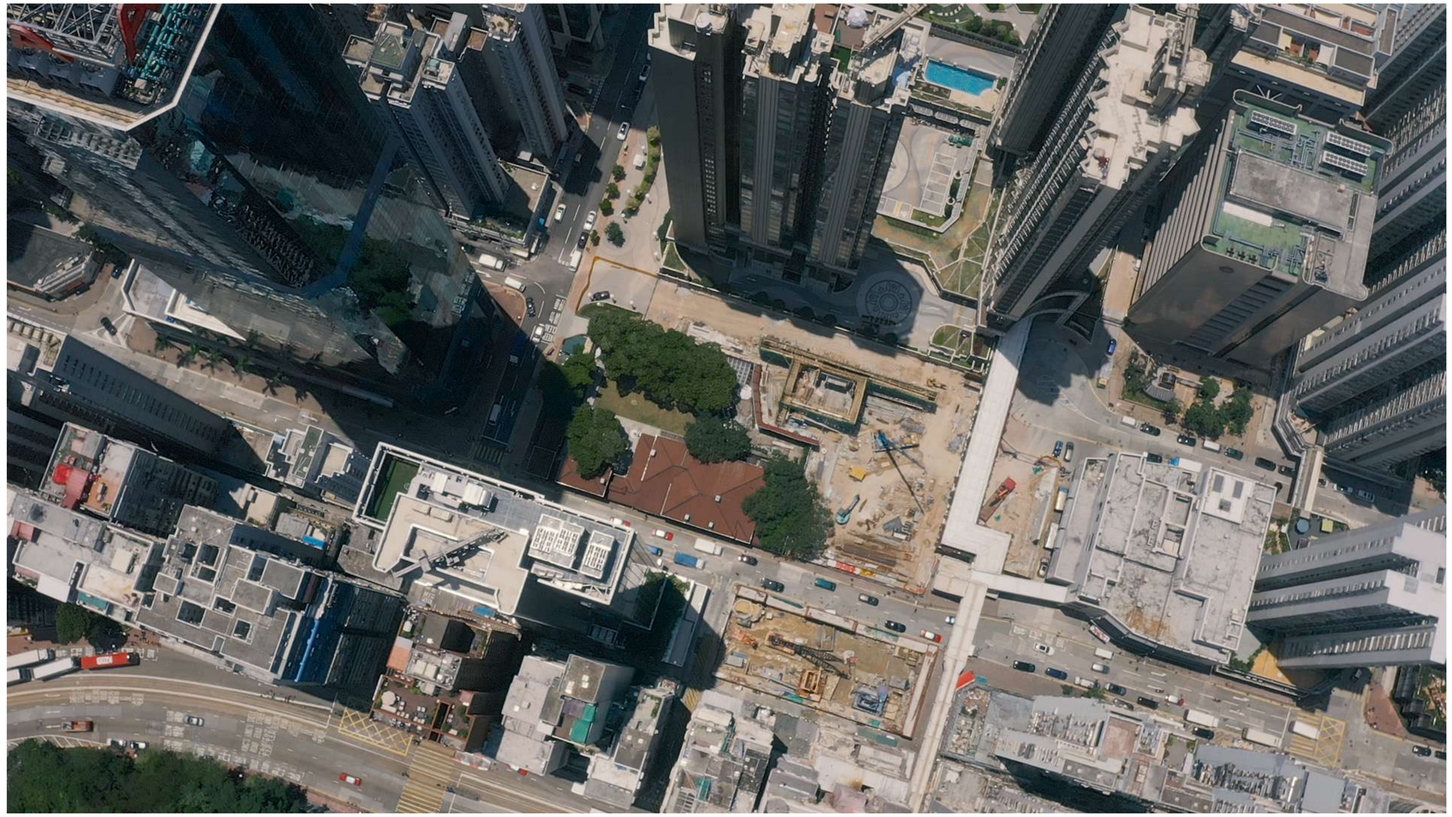
360 Virtual Tour

It is like a custom google map of the chosen place, in order to give people to walk through and have an interactive and all-round look of the place. It can add information and guide people to other places through hotspots, may be articles, links, photos or videos.

In this COVID-19 Pandemic, people cannot go wherever we want, and the 360 Virtual Tour not only offer the option to let us walk around different places, but also it helps business promote their places, especially hotels and resorts. We can use this technology in different areas.

Boxout Production Portfolio

Phase II Development of Oil Street Art Space



Oil Street Art Space is a Grade II historic building that was built in 1908, before it was the clubhouse of the Royal Hong Kong Yacht Club.

It is now working closely with arts development and Oil Street Art Space is currently undergoing its Phase 2 development, the new space is expected to be open to the public in early 2022.

We had aerial shooting for the site, monitoring the progress, for later uses such as promotion.

Oi! Phase II Development

Research – NOOK & CORNER
Vacant Government Sites in North District

The research is done by Very Hong Kong and sponsored by North District Council. There are many vacant government sites can be provided to NGOs to expand their services. These sites are suitable and affordable for them to have different projects and other possibilities. The research programme target North District and look for different ways to activate the sites.

We provided drone and normal shooting service. With graphics by Studio TIO, the images visualise many possibilities on how to use the vacant sites.

非常香港 Very Hong Kong

TIO

北區區議會

Flat and large site
at Fanling town
1,840
平方米
sq.m
面積可觀的平地
位於粉嶺市區

Flat and large remote site

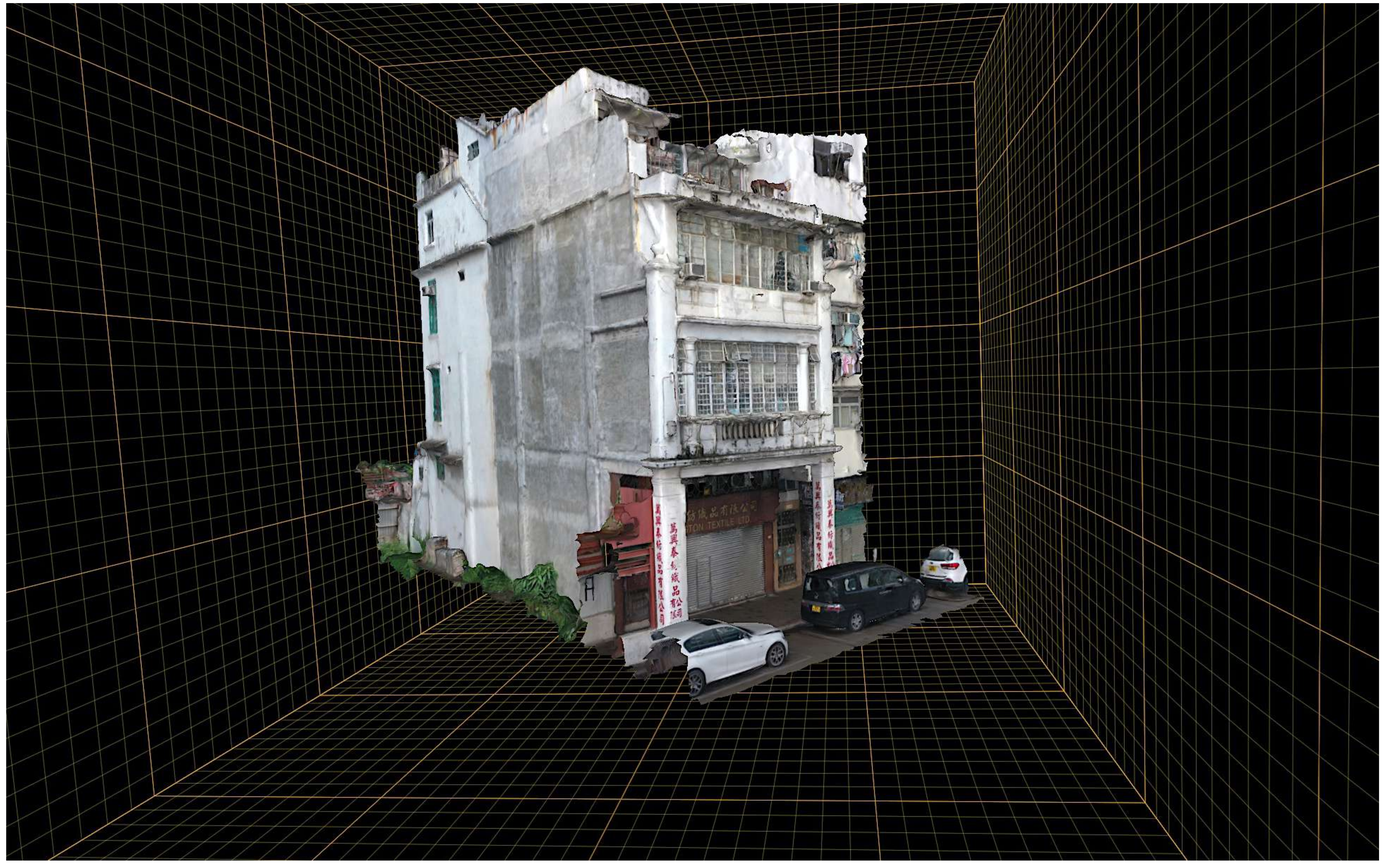
遠離市中心的大面積平地

3,420

平方米

sq.m

Historical Building Preservation – 3D Model Archive of Tong Lau 唐樓



Renovating historical buildings has long been a challenge in Hong Kong. To aid the preservation and reconstruction of these significant structures, capturing of their 3D models can safekeep the detailed architectural features digitally.

Designs for such historical sites can be improved upon based on the 3D model of the original building, so to increase the stability of the structure and allowing them to stand proudly against the advances of time. Revit or other architectural software can be used to modify and add the new structure into the 3D model and create BIM.

For presentation purpose, a high-quality 3D Model provides comprehensive view that can help demonstrate the details of architecture and structure of what the building is going to be like, for people to have better understanding.

Nos.301,303 Castle Peak Road
| 2021

Tong Lau Preservation Project

Nos.301,303 Castle Peak Road
| 2021

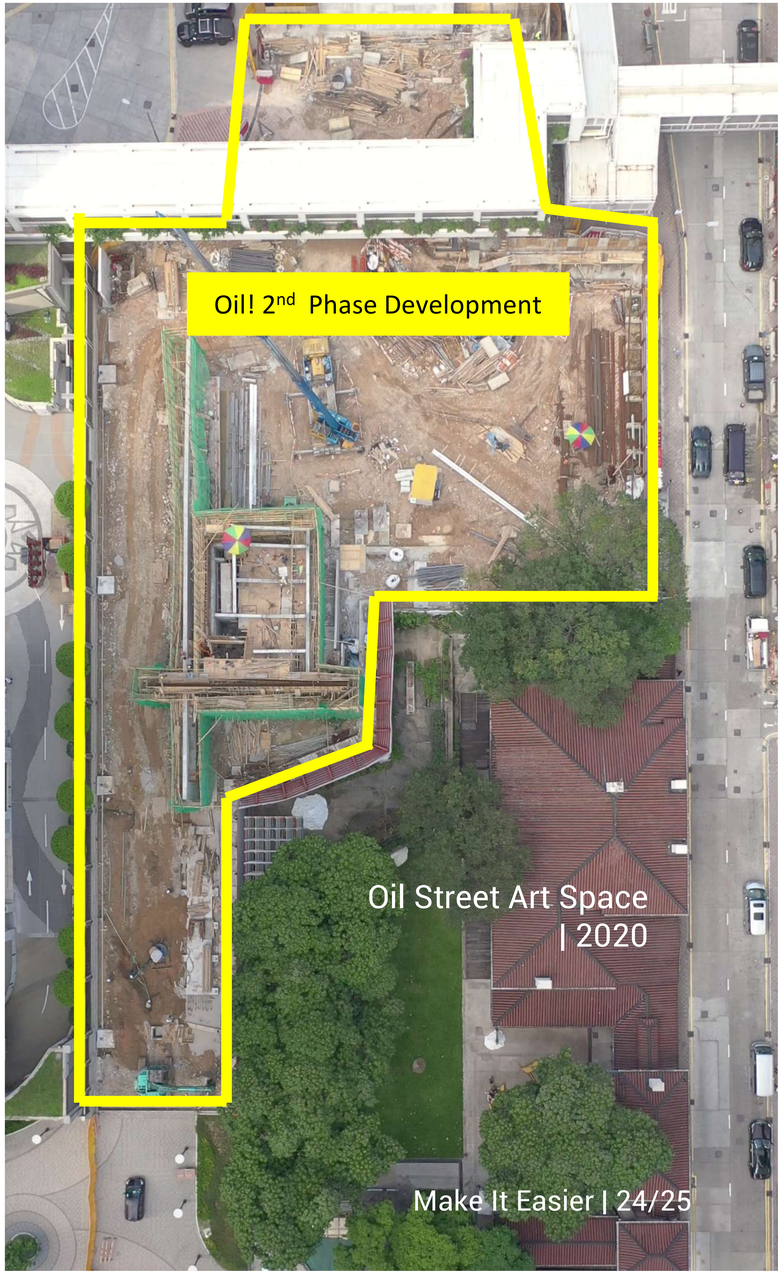
Why Us?

Boxout Production is a startup with a young and ambitious team, with experience and recognized qualifications in the operation of UAS. We are in proud collaboration with Link, LKF Group, Castle Peak Hospital, Hong Kong Construction Industry Council, and Oil!.

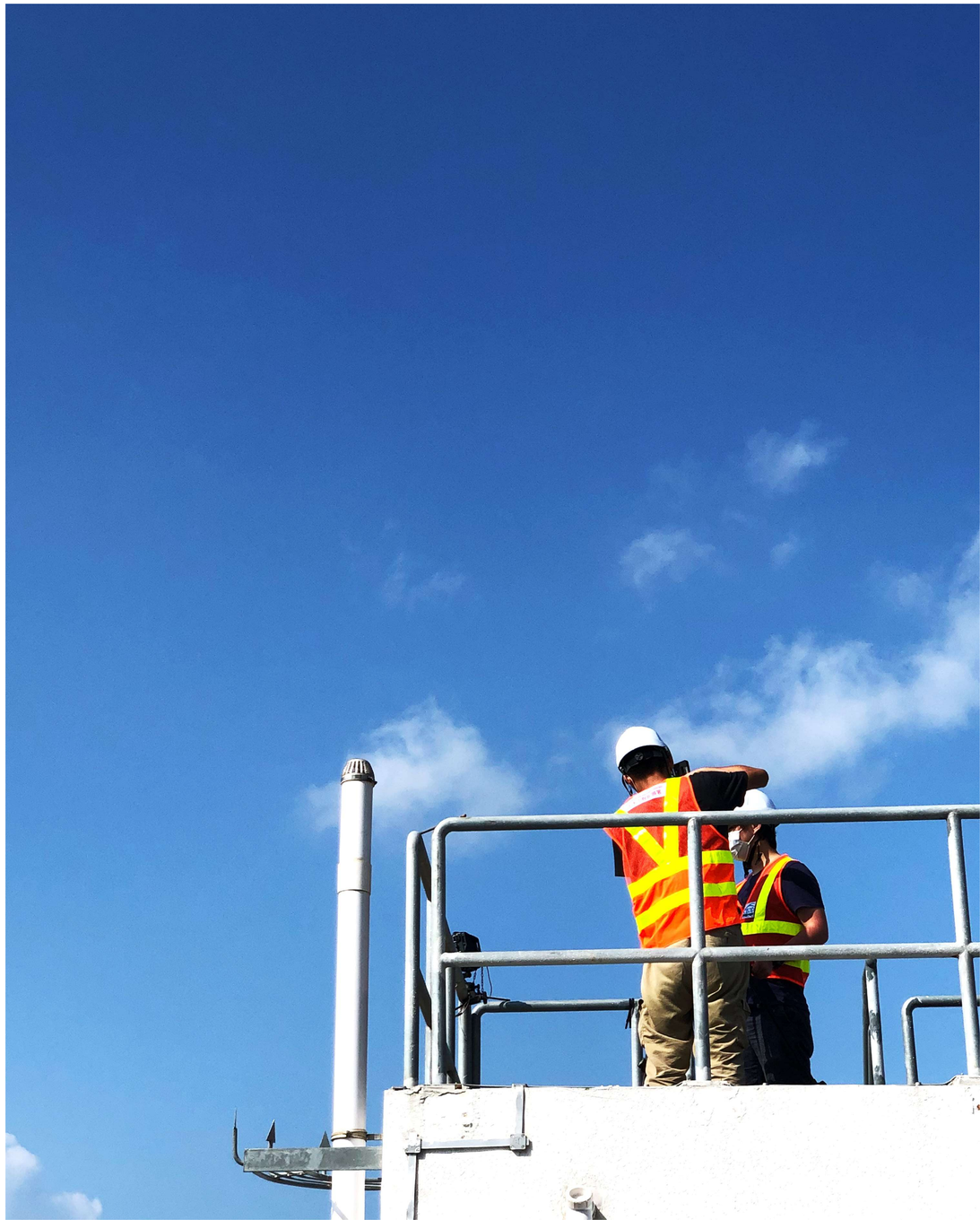
Safety precaution is always our first priority of work when it comes to UAS. We are well trained and have much experience on avoiding accident and good flight planning with risk and emergency management. Insurance will be included, considering any sudden malfunction of machine.

Meanwhile, our 3D engineer team is professional to create fine models, to ensure the model we create is detail enough to help BIM making. Through the high-res model, works can be done easier and smarter.

With the promising development of technology, different payloads and sensors can be used in our UAS. Our team is good at UAS operations and believe that we can work smarter to achieve more with new technologies. We love to explore and welcome the challenges. If you have anything problem that UAS may help, do not hesitate to send us enquiry.



Fly Safe, Work Smart and Make something great together!



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