



**HESABU VISION**

FLY & ANALYSE !

WWW.MELVINPIRARD.COM

# COMPANY PROFILE '20

TAKE  
ALTITUDE  
YOU WILL SEE  
SOME DETAILS

- » AERIAL SURVEY
- » AERIAL DATA ACQUISITION
- » AERIAL VIDEO/PHOTOGRAPHY



## » WHO I AM

I am a passionate autodidact for aerial imagery. It's been 4 years since I started in drone imagery and every day I feel a little more in love with this discipline.

Having had courses in geographic information systems during my university training in Belgium, it quickly became clear to me that drone surveillance could offer enormous benefits and advantages.

I started with small drones and then moved into bigger models as my knowledge deepened.

Then I passed a professional license to become a Professional UAVs Drone Pilot (License Classe 1A n°211464) and thus be able to exercise this profession legally. Among other things, this allowed me to strengthen my flying skills and deepen my knowledge.

Drone imagery is therefore a real passion.

## » WHAT I DO

As far as aerial imagery is concerned, I offer several possibilities.

I carry out drone monitoring in order to obtain point clouds which will be used to monitor the site and calculate areas, volumes, slopes profile, and inspect the sites in search of possible problems.

I also offer an inspection service, which allows companies to check the condition of installations they suspect may be damaged.

I offer a video / photography service in order to provide companies with high quality aerial images for internal purposes or in order to create a video in the image of their companies to reach more customers.

## » EQUIPMENT

Equipment is the focal point of this discipline. We can have all the knowledge we need, but if we don't have the right material for the mission, it will be very difficult to accomplish it.

This is why I chose versatile, powerful and reliable drones, so that each situation can be resolved without problems.

I own one of the best drone in photogrammetric world. The Delair UX-11 fixed-wing drone, it can reach 400Ha in one flight, has full-frame 22 MP camera, so it is the perfect UAV for huge and difficult access area.

For smaller project and 3D mapping building sites the Dji Mavic 2 pro is perfect.

Regarding the processing of data, these being very heavy, a powerful computer with the latest components on the market helps me to process them in a few hours.

## » WHY ME

I offer tailor-made services to best meet your expectations in terms of objectives and financial.

I will devote the most care and the maximum of my capacities to make this collaboration fruitful and successful.

If you have any questions, a problem, an idea not developed in the past between us, you can always count on me at any time of the day to listen to you and find a solution together.





# MY SERVICES

## » SURVEY

- » My Drone Mapping Systems are autonomous
- » Fly preprogrammed routes via auto-pilot & telemetry
- » Autopilot firmware coded for photogrammetric precision mapping
- » True accurate mapping systems (photogrammetric)
- » Rapid data acquisition and delivery
- » Safe & reliable
- » Can fly under clouds and in strong winds

## » INSPECTIONS

- » Inspections and mapping services for factory roofs, cell towers, cooling towers, oil and gas infrastructures, wind farms, power lines,...
- » Confined Space Tank Inspections
- » Drones can inspect hazardous places and systems reducing the time needed and production. It's easier to operate and need less requirements to work in unsafe heights or confined spaces.
- » In few minutes, a large quantity of images is produced and collected, which gives us the opportunity to inspect clearly in high resolution what we are looking for.
- » You'll obtain photography / 2D videos and 3D videos

## » VIDEOGRAPHY

- » You would like to show to your customers the different activities carried out on your sites.
- » Have a visual report, fast and efficient.
- » You would like to have a 4K video representative of your activities to promote your business in order to reach other customers
- » A high resolution video in 4K will be produced with or without music.

## » PHOTOGRAPHY

- » You need images from above to have a good presentation of your finished work
- » You desires some advantageous pictures of your sites.
- » You wish to obtain a regular follow-up of your sites seen from above.
- » The images obtained with a drone are in Full HD thanks to its high resolution sensor of 20Million pixels



## YOU GET AN IDEA ? WE CAN DISCUSS ABOUT IT !

All projects can be defined according to your desires and requirements. I can easily tailor my drones to the mission to get exactly what you want.

Everything is possible.



# HOW I WORK



## 01 BRIEFING & PERMISSION

Each project will be discussed between your team and me. We develop a plan according to your objectives, time and technical possibilities.

## 02 ARRIVAL & SET UP

The day of operations, each flight is planned in advance to minimize working time and allow optimization of operations. A safety zone is also installed to reduce the risks linked to activities

## 03 FLY & DATA RECORDING

Each flight makes it possible to capture as precisely as possible the information necessary for the development of 3D maps,... The high-tech technology of drones allows to follow perfectly and stably flight plans developed by me and thus ensure the success of the mission.

## 04 DATA PROCESSING & TRANSFER

All data is processed in a photogrammetric program dedicated to 3D imaging. The processing of these datas provides a variety of GIS and CAD compatible files as well as 3D maps, orthophotoplans, point clouds, digital surface models (DMS) and digital terrain model (DTS).



# MY EQUIPMENT



## EQUIPMENT IS THE SKELETON OF BUSINESS

Here are some of the most important tools I use for Drone Survey; Drone mapping or photo/videography.



### » DJI MAVIC 2 PRO

- ◆ One of the best drone for High Resolution photography with its 20 MegaPixels
- ◆ The brand new 1-inch CMOS sensor created by Hasselblad© has an active sensing area four times more effective than the original Mavic Pro.
- ◆ It has omnidirectional obstacle detection giving it a considerable advantage for inspections
- ◆ Perfect for small 3D mapping ; Aerial Inspection ; Aerial Photo and Videography

### » DELAIR UX-11

- ◆ This is one of the best UAV on the market for photogrammetry.
- ◆ This UAV is specially made for survey.
- ◆ Up to 80% faster surveying operations
- ◆ Delair UX-11 CAN MAP UP TO 400 HA (1,000 AC) IN ONE FLIGHT, which is 2x times more than other fixed-wing drones and 14x times more than multicopters.
- ◆ Take off and landing vertically (VTOL)
- ◆ One of the best camera equipment available in the drone industry. The UX-11 offers a full-frame 22 MP payload, which guarantees better map reconstruction.
- ◆ 1.7 cm absolute accuracy ! The UX-11 PPK use option to reach down to 1.7 cm accuracy, previously only possible with ground-based survey equipment



### » DELAIR AI. & CO

- ◆ I'm using several software to process all the data captured by drone, Delair Ai. is one of them.
- ◆ The data processing software is as important as the drone used.
- ◆ The Delair ai. is specially designed for mining and aggregates.
- ◆ It calculates volumes, surfaces, slopes profiles, ...
- ◆ View inventory and export reports.
- ◆ Measure the consumption of reserves and mining progress.
- ◆ Analyze the conditions of transport routes to optimize fuel consumption and fleet traffic flow.
- ◆ Plan blasting and track changes over time.
- ◆ Cloud-based application allows universal access by anyone, any-time, anywhere.
- ◆ Annotate, comment and share with all the collaborators.



# Drone Survey DEVELOPPEMENT

# DRONE SURVEY - A TOOL AT THE SERVICE OF MINES & QUARRIES

## ✔ Provide accurate and exhaustive data.

Total stations only measure individual points. One drone flight produces thousands of measurements, which can be represented in different formats (orthomosaic, point cloud, DTM, DSM, contour lines, etc). Each pixel of the produced map or point of the 3D model contains 3D geo-data.

## ✔ Map otherwise inaccessible areas

An aerial mapping drone can take off and fly almost anywhere. You are no longer limited by unreachable areas, unsafe steep slopes or harsh terrain unsuitable for traditional measuring tools. You do not need to close down highways or train tracks. In fact, you can capture data during operation without an organizational overhead.



Thanks to advanced measurement and calculation tools (distances, surfaces, volumes, slopes, etc.) you will be able to follow the evolution of the production and better manage its operations such as:

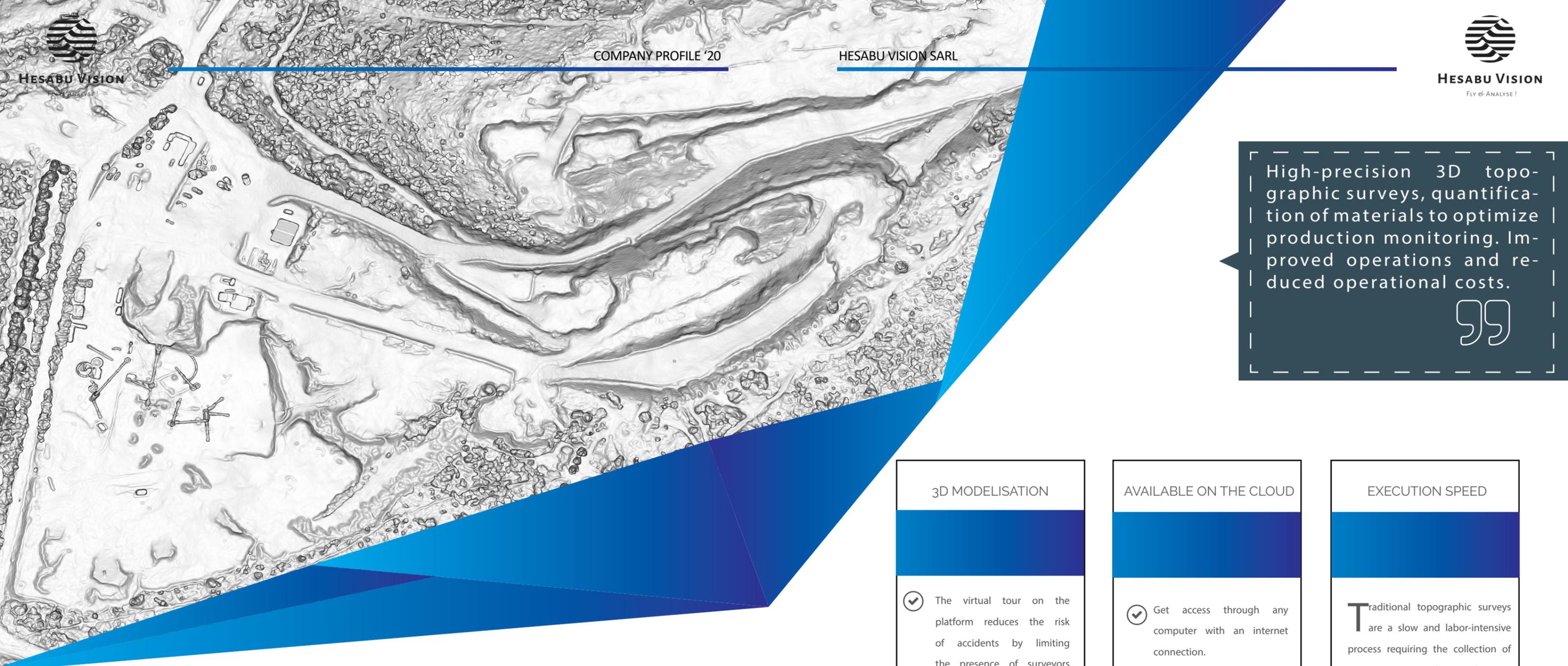
- ✔ Planning of extraction and extension projects,
- ✔ Inventory monitoring,
- ✔ Analysis of tracks to optimize machine traffic,
- ✔ Delair.ai will also facilitate land and property management of production sites

Melvin Pirard  
Chief Operating Officer  
Professional Drone Pilot



Drone photogrammetry is a technique that consists of performing measurements in a scene, using parallax obtained between images acquired from different points of view.





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HESABU VISION SARL



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FLY & ANALYSE!

High-precision 3D topographic surveys, quantification of materials to optimize production monitoring. Improved operations and reduced operational costs.



### 3D MODELISATION

- ✓ The virtual tour on the platform reduces the risk of accidents by limiting the presence of surveyors and sub-contractors on the ground walking through the mine, in the middle of mobile machinery, or on stocks of materials.
- ✓ Sharing a 3D model for a better understanding and accessible to all via a web page or CAD file.
- ✓ Obtain cubing calculations taking into account the least unevenness of the terrain unlike traditional topographic methods

### AVAILABLE ON THE CLOUD

- ✓ Get access through any computer with an internet connection.
- ✓ Share information live with other users who have access to the platform. Everyone in the company can have access to it and depending on the status of use, intervene in different ways on the platform.
- ✓ Easy to learn and very easy to use

### EXECUTION SPEED

- Traditional topographic surveys are a slow and labor-intensive process requiring the collection of GPS points. Depending on the area, several hundred points must be collected manually, which may take several days or more.
- ✓ A flight time of 1 to 2 hours is sufficient to obtain an accurate topographic survey of the entire mine
- ✓ Fast encoding of the data, they may already be available a few hours later.



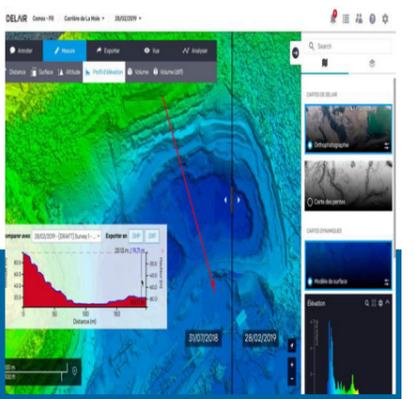
### High Definition Ortophoto-plans creation

High definition ortophotoplans are the basis for map creation. They allow users to navigate through the mine, observe and examine in detail in order to better plan activities.



### Cubing of stocks and volumes

I provide several cubic calculation systems for each situation. So it is very easy to know the cubage and tonnage of each stock depending on the product chosen.

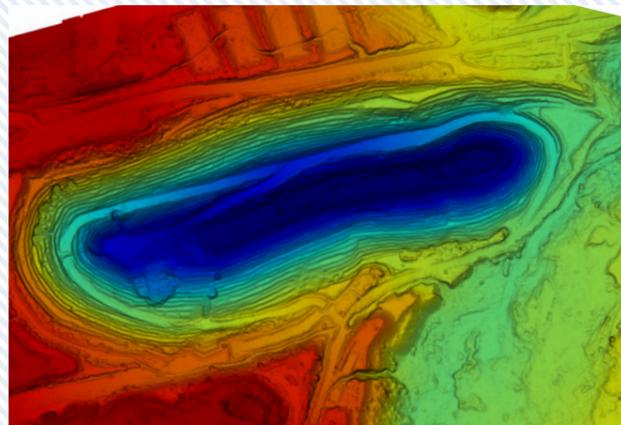


### A platform where all users can share

Operating on the principle of the cloud, anyone wishing to do so can have access to the program. Thus offering the possibility of consulting the latest data and work carried out on the mine.



# PORTFOLIO

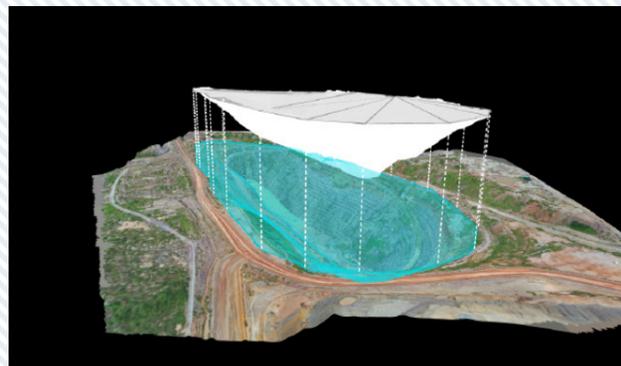


## 01 DRONE SURVEY - DTM ; DSM ; DEM

This is an exemple of DTM that I can produce. It is allow us to see the differents slopes, the highest point, slowest point, the eventual natural drains etc...

Each flight produces DTM files (Digital Terrain Model), DSM files (Digital Surface Model), DEM files (Digital Elevation Model) that can be use in differents softwares as GIS or CAD.

All these files contains many information that can help you to manage your site as Road, Open pit Mining, building site,...



## 02 DRONE SURVEY - 3D MAPPING

3D mapping is the first step in data processing. A point cloud will be created with all the images and data to represent the subject we are studying.

This point cloud is useful to calculate surfaces and volumes and will be essential to create the 3D representation.

The 3D representation will be interesting for inspections without risk taking, to study the subject easily, and you will be able to present your subject with didactic support to your team or your customers.



## 03 DRONE PHOTOGRAPHY

Have you just started or finished a job and want to present it through a weekly or monthly report ?

I offer you high quality photos to best represent your work.

## 04 DRONE VIDEOGRAPHY

It is easy to make a high quality video of the work done on site. Your customers will understand more easily and see how the job is done.

The video is made according to you to adapt perfectly to the spirit of your business.

I can also tag videos with dynamic and professional comments to enhance the presentation of your work to your team or client.





# HESABU VISION

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