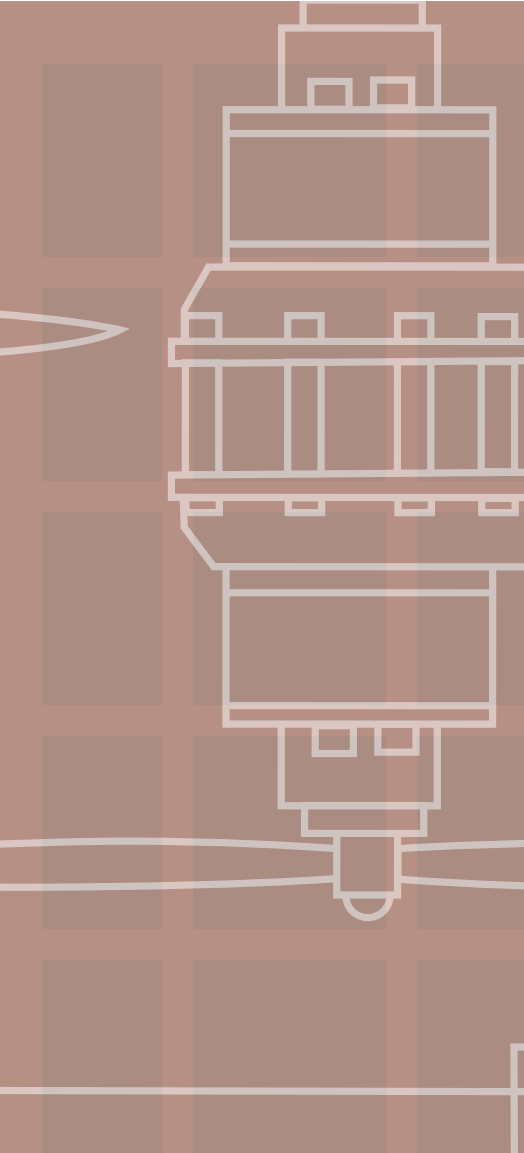


# AN AERIAL ADVANTAGE





# COLLABORATION *is* KEY

LIVING AND WORKING IN A WORLD OF FAST TECHNOLOGICAL ADVANCEMENT, COLLABORATION OF SKILLS IS BECOMING MORE COMMONPLACE.

DTM Technologies Ltd and Seahawk AP have brought together sets of skills that provide industry with expertise that include:

- Aerial Film/Photography
- 3D Digital modelling
- 3D Digital Visualisation
- Mapping & GIS
- R & D

DTM Technologies Ltd. was founded in 2014 by Alan Roberts. Alan is a qualified illustrator and has many years experience collecting real world digital data and providing digital 3d modelling services, his background in the arts gives him a great platform to show off the work to its best visual appeal.

SEAHAWK AP was founded by Zaid Al Obaidi in 2013 after a successful career in Saturation Diving. Zaid is a qualified Civil Engineer and as such, has a great understanding of heavy and light industry combined with 20 years of sub-sea experience in construction, maintenance, surveying and inspection of sub-sea installations and assets.

Both Alan and Zaid have CAA (Civil Aviation Authority) permissions for commercial aerial work using a variety of aerial platforms up to the 20kg level and have worked for large and small organisations across the UK.





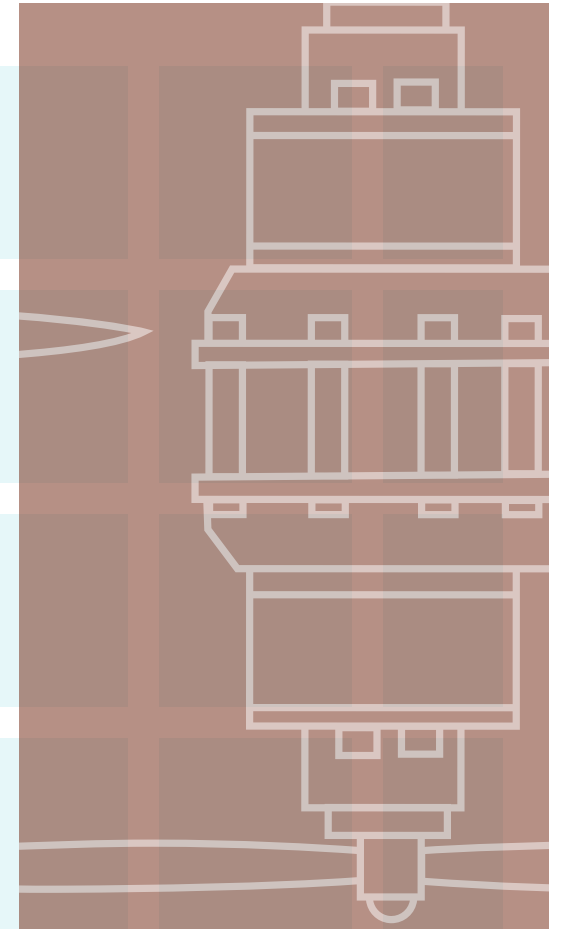
# AERIAL WORK

SPECIALISTS IN CAPTURING STUNNING AERIAL CINEMATOGRAPHY, PHOTOGRAPHY AND NADIR IMAGERY FOR GIS ANALYSIS USING A RANGE OF POST PROCESSING AND ANALYTICAL OPTIONS. WE CAN OFFER VERY HIGH RESOLUTION STILL TO FULL 4K OR HD VIDEO

Using the very latest in UAV technology, with two registered pilots and five registered airframes, built and maintained by our skilled and experienced team. We can build to suit client project requirements.

As our equipment is totally bespoke, the UAVs can be easily

modified to carry an array of cameras and remote sensors to suit the client needs, from lightweight indoor filming to heavy lift unmanned aircraft systems. With the fast moving UAV scene we are constantly evolving and we are happy to discuss any requirements you may have.



# Technical SPECIFICATIONS

All our equipment is maintained to the highest standard. Shielded cabling and secure data links allow us to work in many environments.

Some of our UAV's have been designed for specific applications with various payload capabilities, an array of sensors can be mounted to suit client needs and requirements. Our systems are intrinsically safe, built in house and maintained to the highest standards.





**GROUND SURVEYING**



**OFFSHORE INSTALLATION**



**APPLIANCE MONITORING**



**CROWD/EVENT MONITORING**



**CIVIL ENGINEERING**



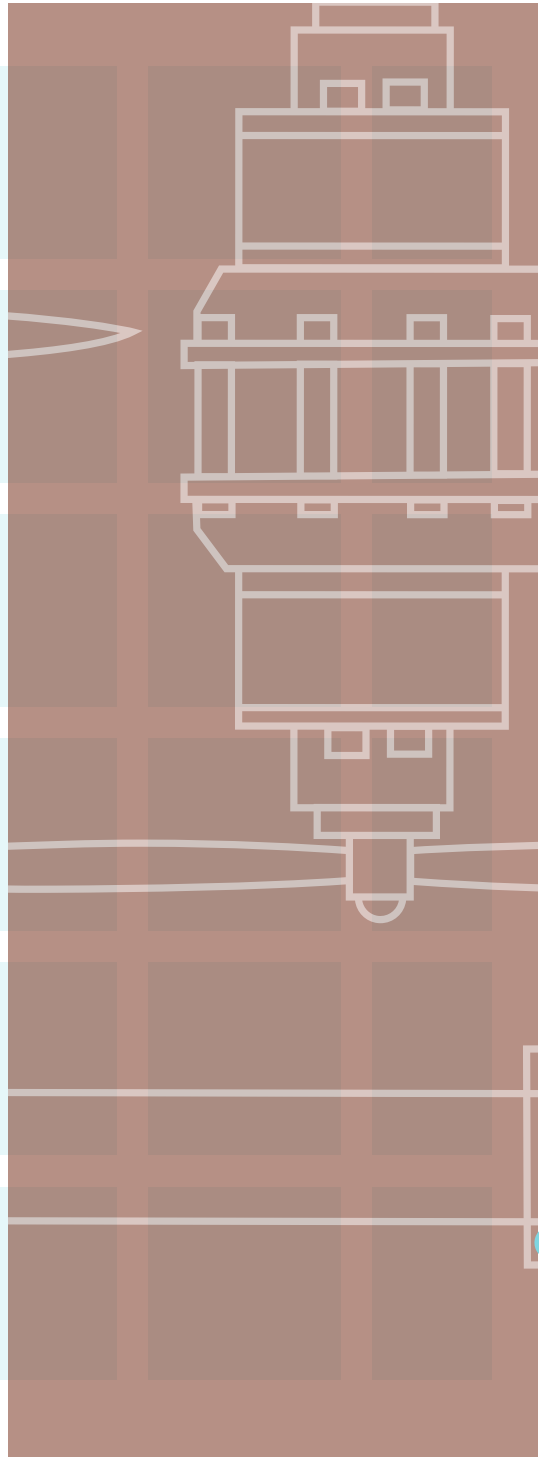
**STRUCTURAL INSPECTION**



**SEARCH AND RESCUE**



**MONITORING**





### Laser Scanning

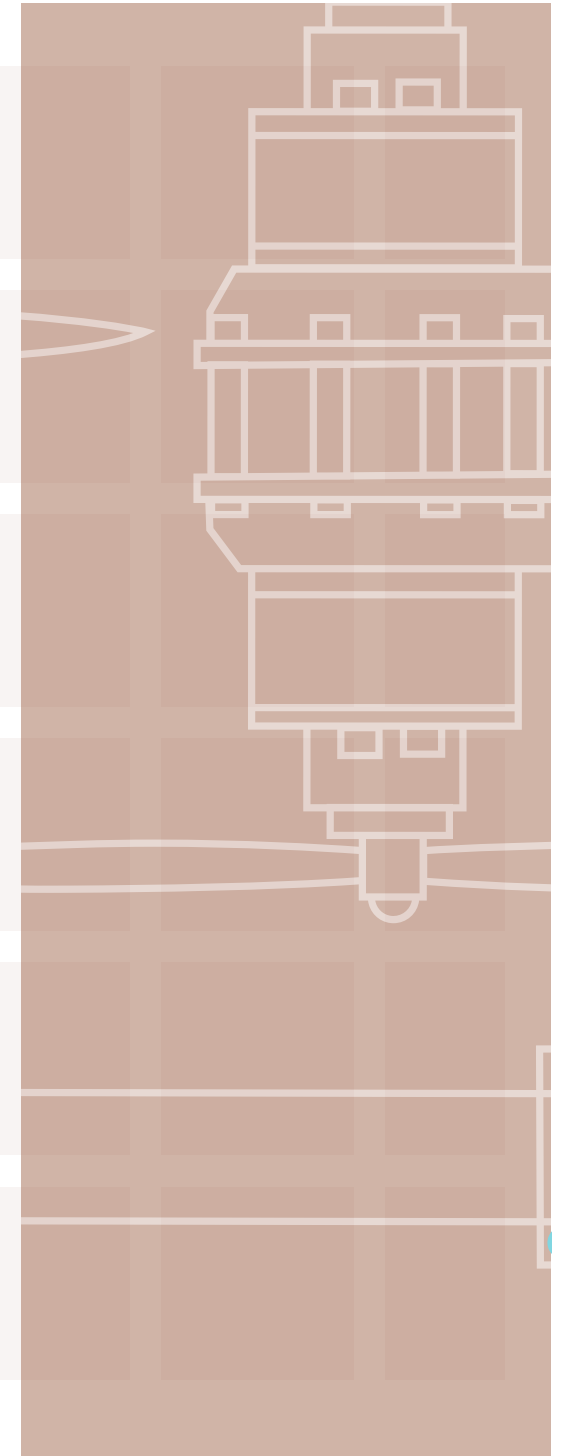
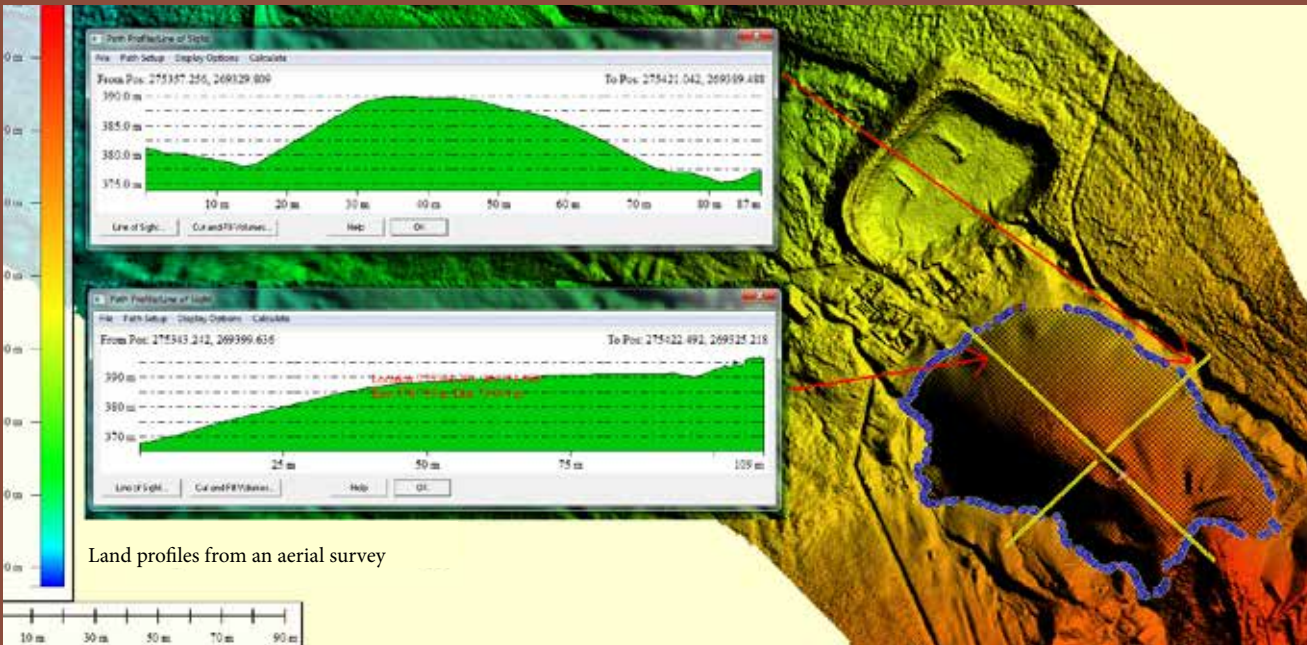
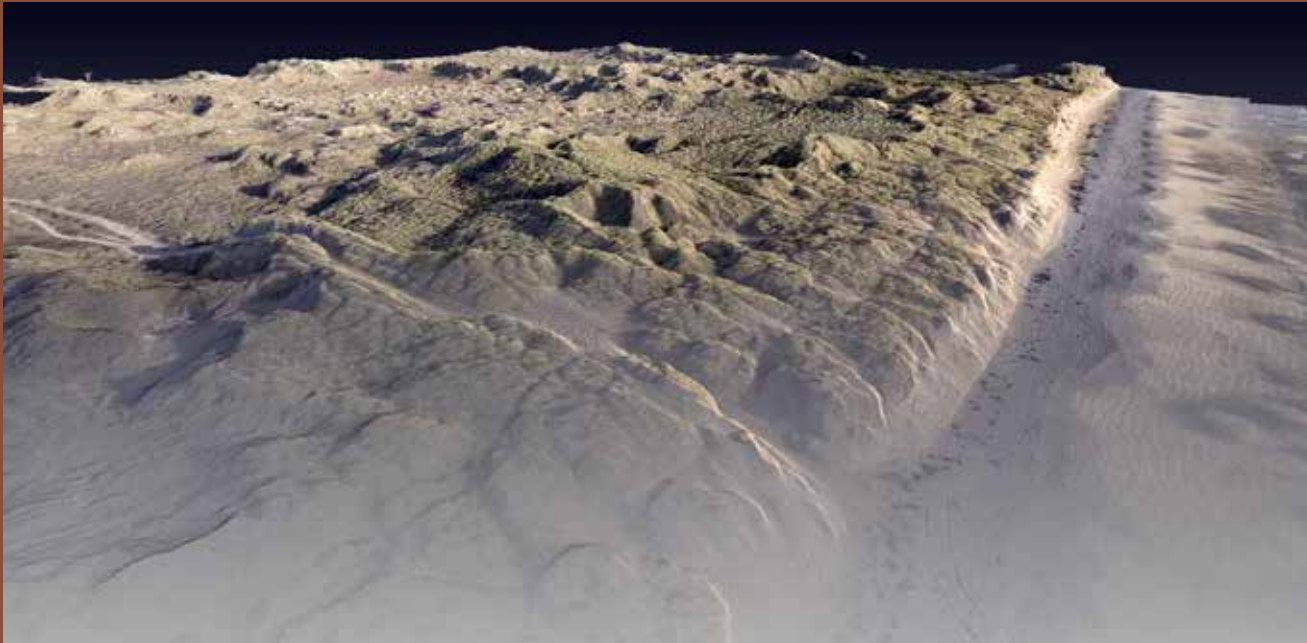
Laser scanning is fast becoming part of the everyday surveying workflow. The information collected in the form of a point cloud is highly accurate. Laser scanning can be used to produce accurate as built drawings, topographic maps and form the basis of digitally modelling the as built environment. We at DTM Technologies have developed workflows and strategies that can manipulate point cloud data and create visualisation products suitable for the surveyor, the architect, the scientist, the planner, the environmentalist, the archaeologist, the list is endless. We have the equipment, we have the skills.

### As Built Surveys

With more and more construction projects having to conform to BIM level 2, we can provide a service that you will require right at the start of a project. We can collect laser scan data, or point cloud data of any existing structures and landscape and provide it in a format that suits your workflow. Our point cloud data will be accurate to <math><3\text{mm}</math> and referenced to either local or national grid. We can also take this data a step further and provide a detailed 3d or 2d digital asset that will, not only help in your initial planning, but be an asset throughout the life of your project.

### Topographic Surveys

Although we provide an aerial surveying service that is usually adequate for most projects, sometimes the level of detail needed is even higher, (sub cm), our laser scanning service can provide this. With this data we can provide a digital elevation model, referenced to the Ordnance survey grid, making it compatible to all other map data for the UK. As a licensed ESRI user we can carry out a range of processes, including volume, slope and hydrological analysis. All our laser scan data can be converted to a mesh for use within a 3d modelling/animation environment



# AERIAL SURVEYING

ACCURACIES - GEO REFERENCING - RESOLUTION

Aerial surveying using the latest UAV technologies is proving itself to be an extremely cost effective and time saving approach compared to more traditional methods. Terrain and structural surveys can now be undertaken far more efficiently, safely and more accurately than ever before.

Using the very latest technology, all our digital assets are geo referenced and provided in many file formats, specifically for use in geographical information systems (GIS).

Licensed ESRI (ARCGIS) users we supply data ready for use within this and many other industry standard formats. GNSS (Global Navigation Satellite System) stations and data. The well-known GPS (Global Positioning System) is an example of a GNSS and can be used to pinpoint the location of a user's receiver anywhere in the world. We Use Topcons, TOPnet network of base stations, which are situated throughout the UK, consisting of 110 very accurately positioned GNSS receivers spread across Great Britain.

All our aerial surveys are carried out in conjunction with a ground survey. Our ground surveys are used to geo reference the captured aerial data and perform validations processes to ensure its accuracies are within limits.

The data streams from TOPnet enable the correction of GNSS errors to be computed in real time and, when transmitted to our surveyors, allow them to coordinate new map features to an accuracy of just a few centimetres using a technique called RTK (Real Time Kinematic) GNSS.





We carry a tablet type computer that is coupled via Bluetooth to a survey-grade GNSS unit mounted on a pole, which we use to pinpoint the position of new features or check the position of existing data on the maps.

Full reports are provided with each aerial survey carried out. They highlight accuracies and error tolerances and also provide resolution information.

Many analytical processes can be performed on the data.

The imagery here shows rain water run off, calculated from the model



# DIGITAL MODELLING

The benefits of digital 3d models have long been associated with big production animated movies and form the basis of all modern computer games.

For the past 15 years we have been producing 3d models and animations for industry and education. All our models are derived from real world data to provide an accurate depiction, on screen, of what exists or what is going to exist.

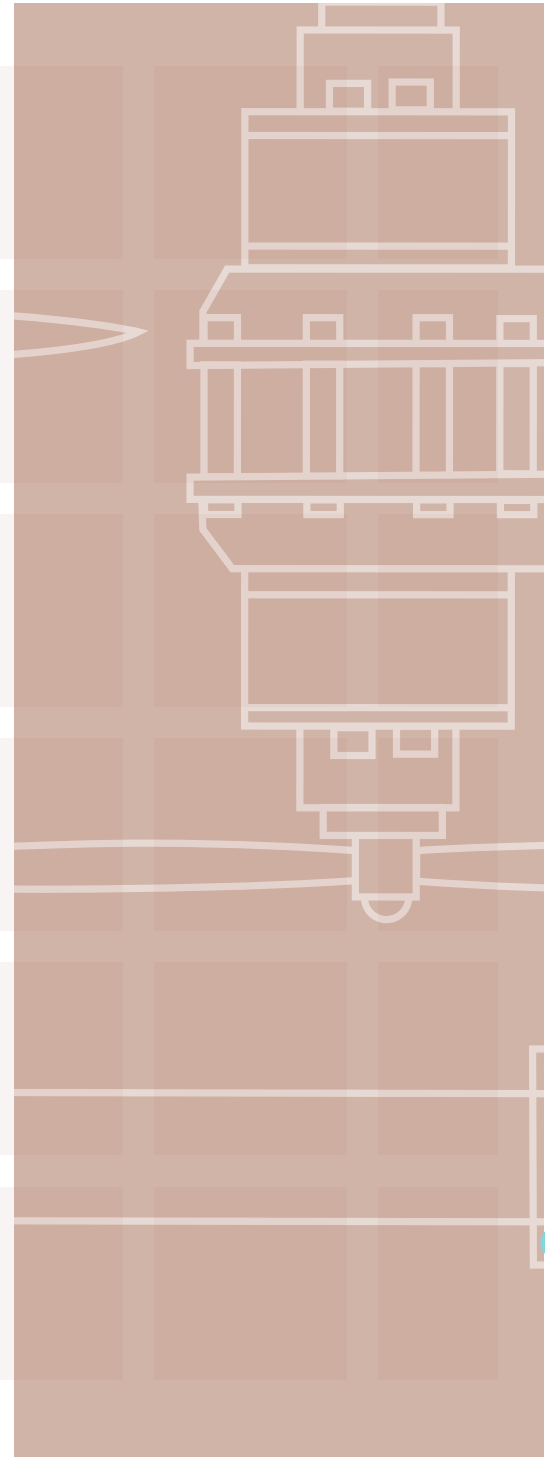
We use industry standard, state of the art modelling and CAD software. These models form the basis of animations and can be placed, standalone, in a platform independent 3d viewing application, ideal for public and private consultation, planning and security and more.

3D Laser scanning is fast becoming an industry standard solution for capturing survey grade structural information, internal and external structures can be captured in incredible detail, in the form of a point cloud. These point clouds will then form a template to create detailed 3d models and building information models (BIM)

Our laser scanning and 3d modelling packages go hand in hand with our aerial surveying processes, forming a complete 3dimensional picture of any large or small construction, planning or environmental project.

Our work-flow gives us the ability to work with, and convert, many industry standard data types.





# INFORMATION

We are fully aware of the data protection act, and industrial sensitive information. We have the expertise and ability to apply any security measure needed dependant on the clients needs.

All precautions are taken to ensure all our equipment is as resistant as possible to outside electronic interference.

As a new company we are in the process of creating a Welsh language policy, Environmental policy, Sustainability policy and we are also in the process of looking at ISO 2701 certification, the Information Security Management standard.

OUR UAV pilots are fully insured and licensed by the CAA ( Civil Aviation Authority) to carry out commercial work in the sub 7KG and Sub 20 KG categories

All our data collected and created for the client is backed up using our 4 tier system, working copy, separate hard drive copy, hard disk copy and an off-site archive. This is done on a weekly basis to ensure maximum resilience to unknown events.

# ABOUT US

DTM TECHNOLOGIES and SEAHAWK AP have worked together on numerous projects in the past. We have come to realise that sometimes for one company to cover all areas of an industry sector that is quite new and advancing at a rapid rate can cause quality of service to suffer. We are bringing together experts in data capture with experts in data manipulation and analysis. Data acquisition, modelling, mapping and surveying form part of the same process, providing real world information in a format that is accurate, at high resolution and presented in a way that is understandable and usable by people on the ground, managers and stakeholders.





**Alan Roberts BA Hons**

Alan Roberts has been working in the 3d visualisation industry for 15 years. While doing a degree in design/illustration he was always merging the boundaries between science/technology and art. Taking great interest in the works of Leonardo Da Vinci and how he developed techniques that merged the two disciplines.

In today's world he likes to continue this train of thought and uses techniques and working practices that are primarily used within the entertainment arena to deliver products and services that are targeted at industry.

Alan has many years experience in problem solving and providing the client with new and novel ways of displaying and animating 3d digital data on a wide variety of platforms " The power of the mobile platform technologies is increasing year on year and provides us with some very exciting prospects for data visualisation"

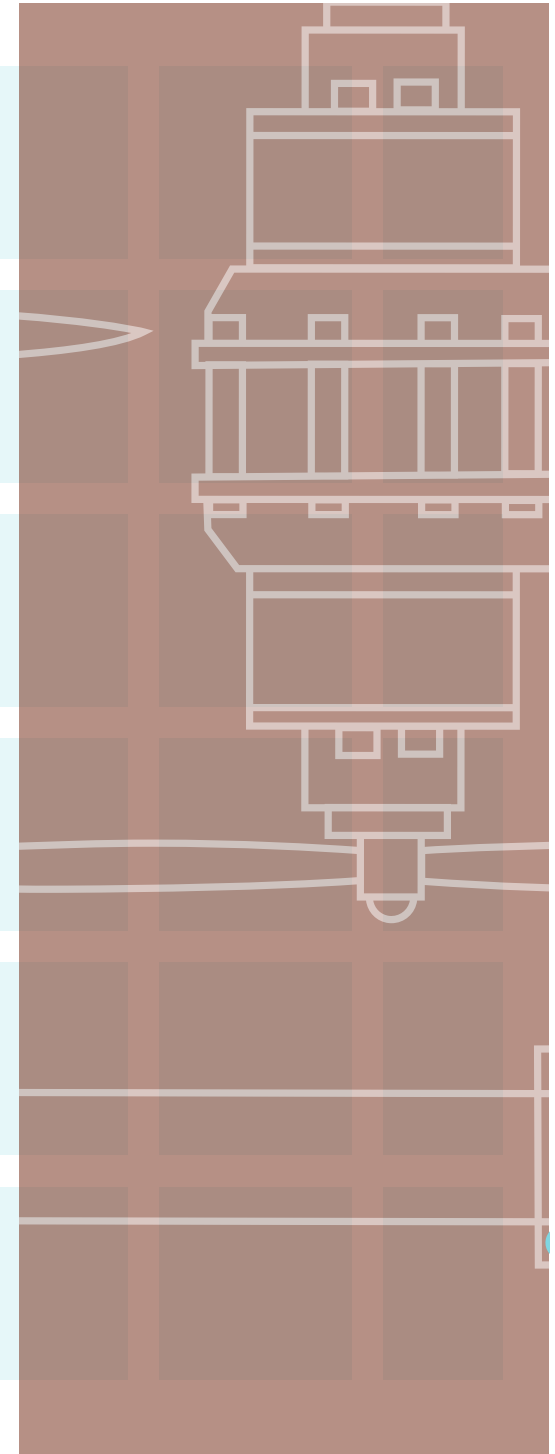


**Zaid Al Obaidi BEng Hons**

Zaid graduated in Civil Engineering with honours from Salford University in 1994. He then trained as a commercial diver and worked internationally, completing his Saturation Diver training in 2004. Zaid has undertaken advanced training including surveying and inspection. He currently has 20 years offshore experience and is fully conversant with sub-sea asset survey and inspection, utilising the latest in non-destructive techniques.

Zaid has combined his hobby of flying remotely piloted aircraft over the past ten years, with his offshore experience and knowledge, to found Seahawk AP, utilising unmanned aerial "drone" technology to undertake survey and inspection tasks, capturing data for mapping and modelling as well as more conventional photography and video.

Zaid builds and maintains his own aircraft, skills he has developed over ten years of flying and can modify them to carry various sensors and payloads, dependant on client requirements.





**CONTACT:** Alan on 07766 402556 OR Zaid on 07980 597453  
**DTM technologies:** [dtm-tech.co.uk](http://dtm-tech.co.uk)  
**Seahawk AP:** [seahawkap.com](http://seahawkap.com)

