



# 3DM Analyst

*Focussing on the Future*

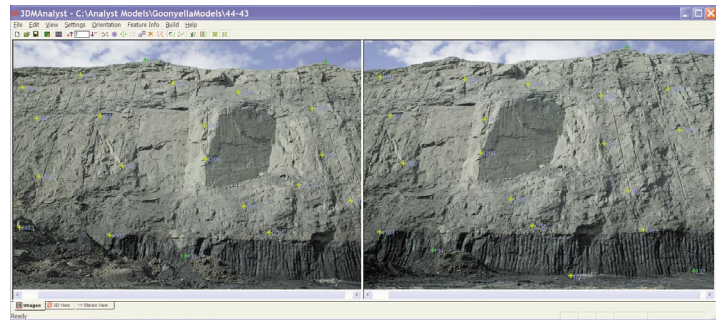
## Mining Analysis Software

**3DM Analyst** is a rapid 3D data extraction package for use with digital imagery. The software uses pairs of aerial or terrestrial digital images that can be obtained either from digital cameras or scanned images.

3DM Analyst offers advanced functionality for model orientations, using any combination of control points and camera stations and also allows the use of natural tie points as additional input to enhance orientations.

### Features

- Supports digital cameras and scanned images in BMP, PNG, TIFF, TGA, and JPG image formats.
- Built-in support for calibrating digital cameras.
- Customised orientation routines especially designed for difficult terrestrial models.
- Optional Least-Squares Matching for all digitised data and centroiding of circular targets to improve accuracy.
- Enhanced automatic DTM generation algorithm with user-controllable density and correlation criteria.
- Automatic contour and cross-section generation.
- Support for up to 50,000 user-defined feature types arranged in a logical hierarchy.
- Support for breaklines, areas, and holes to control DTM generation and TIN formation.
- Three distinct views for digitising and processing data to suit the user's preference:
  - *Images View*, with both images shown side-by-side, featuring the *Single Image Digitising Tool* that allows data to be digitised in one image while the software locates the corresponding point in the other image.
  - *3D View*, with all data shown in 3D for full 360 degree viewing, featuring 3D texture mapped models.
  - *Stereo View*, with images and data shown in stereo to allow true depth perception. Supports a wide range of industry-standard stereo hardware as well as ADAM's range of handwheels and footdisks.
- DXF import and export ability for compatibility with most mine management tools.
- 3D image export ability for compatibility with Vulcan and other products supporting this format.
- User-friendly project wizard to guide in the project creation process.



**Images taken by an 11 megapixel Canon EOS 1Ds, from a distance of 70 metres with a coverage of 100m X 70m giving an accuracy better than 2cm. Time taken to generate a 3D image for use in Vulcan after transferring the images to the PC: less than 6.5 minutes.**

### Applications

- High wall mapping and monitoring
- Surveying dangerous or hard-to-access areas
- Stockpile volume measurement
- Geological and geotechnical analysis
- Land slide safety monitoring
- Virtual view for mining management

### Advantages of 3DM Analyst

- Accuracy
- Cost-effectiveness
- Ease of use
- Flexibility



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## Technical Specifications

### Photography

Any digital camera can be used, from a simple hand-held, low-resolution camera, to the most sophisticated available on the market. Scanned images from calibrated film cameras can also be used. 3DM Analyst can calibrate digital cameras directly, or import standard camera and lens calibration details for film cameras.

Either traditional aerial or terrestrial/oblique imagery can be used, with the standard 60% overlap for multiple image models, or convergent pairs of images for single models.

### Data Exports

DTM points and triangle feature data, extracted line feature data, contours, and cross-sections can all be exported in standard DXF format or ADAM's own MAF format for input into other software packages. 3D images can be exported for use in Vulcan and other software packages.

### Training

ADAM Technology can provide operator training if required. Effective operator training can be achieved in a very short time. No previous training or special photogrammetric knowledge is required for normal operation. All complicated mathematical processes are performed automatically by the software, requiring only simple selections and inputs from the operator.

## Computer Recommendation

### Hardware

The minimum specifications for using digital camera imagery are 256MB of RAM and a Pentium III or better. For using scanned images from film cameras, we recommend 512MB of RAM and an Intel Pentium IV/AMD Duron or better.

### OS

Microsoft Windows NT 4.0 Service Pack 6a or better, Microsoft Windows 2000, or Microsoft Windows XP.

### Display

The 3DM Analyst supports and can be supplied with a range of stereo viewing options. Supported hardware includes StereoGraphics' Monitor Z-Screen 2000 and CrystalEyes products.

*“The results of the field trial at Goonyella have indicated that the ADAM Technology software is more accurate, faster, more flexible, easier to use, more robust and more rapidly developing, provides better quality models, has better software support and requires less training. Based on technical considerations of the trial results, ADAM Technology's 3DM Analyst plus CalibCam softwares provide the best solutions for BMA's highwall mapping.”*

*— BMA Coal, "Report on Field Test of New Safe Highwall Mapping Technologies for BMA"*



### HEAD OFFICE

#### ADAM Technology

Suite 3, 41 Belmont Avenue  
Belmont, Western Australia 6104  
Post: P.O. Box 283,  
Cloverdale, WA 6985, AUSTRALIA.  
Ph: + 61 8 9479 5575  
Fax: + 61 8 9479 5585  
Email: adam@adamtech.com.au  
Web: www.adamtech.com.au