

From field maps to 3D models using **move**

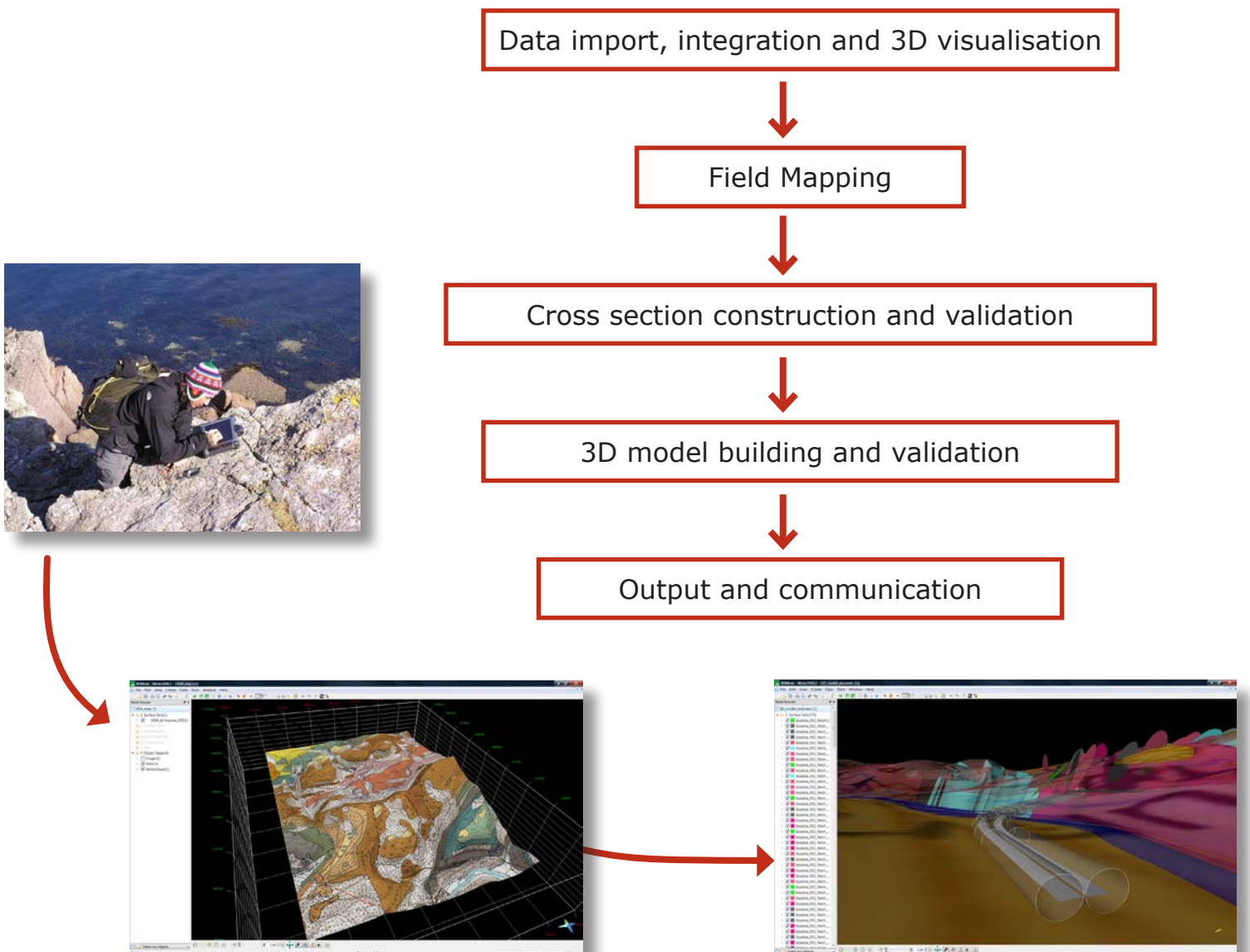
Throughout Midland Valley’s history we have provided our software and services to Geological Surveys, Government Research Organisations and Regulatory Bodies with emphasis on structural modelling and validation using our proprietary software, Move.

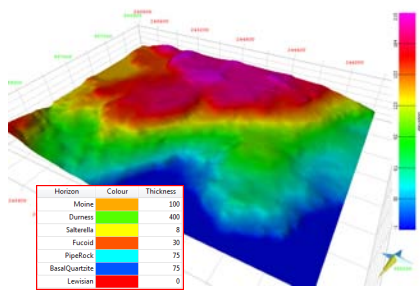


We have been developing new workflows and functionality in Move to enable geologists to capture data, build models and test their interpretations directly in the field. Survey geologists using Move on a rugged laptop or tablet pc have been able to dramatically reduce the cycle time from field mapping to final map production and delivery of a digital model. In addition, private sector engineering companies are now using Move to rapidly build and test 3d models of the sub-surface geology for major geotechnical and civil engineering projects.

Designed for geologists by geologists, Move allows the user to mix heritage data with industry standard surface and subsurface data and conventional new field work.

Typical Workflow in Move:





Data Integration and Visualisation

Move allows data integration and visualisation in 2D and 3D with different data types and scales being supported in one environment which has been specifically designed to deal with geological models. In Move you are able to load and geo-reference maps and sections (both paper and digitally including GIS data), drape map data onto a digital elevation model and use a database representing the stratigraphy to condition your model.

Field Mapping

Using compass, GPS and a tablet PC it is now possible to field map without paper while using the same approach as traditional mapping using Move and a digital field notebook (e.g. Windows Journal) on a tablet PC for data collection/recording instead of a notebook.



A 3D field slip can be created in Move by integrating a topographical map and a digital elevation model. The 3D field slip allows an easier visualisation of the relationship between maps and topography than for traditional maps.

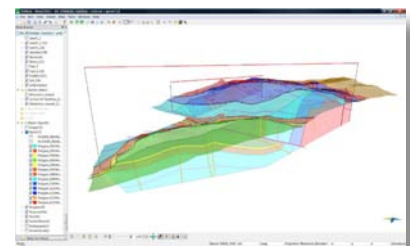
In Move, to represent mapped outcrops, contacts and measured data on the field slip using the database/attributes:

- Insert points for outcrop, boundaries, faults, etc. location using GPS coordinates.
- Insert measured dip data using GPS coordinates.
- Draw limits of mapped outcrop using polygons.
- Digitize geological boundaries, axial traces and faults.

In the evenings during fieldwork, interpretations can be completed using additional polygons and a cross section can be created using Move's section construction toolset. This allows users to identify key issues before returning to the field the following day. Digital mapping reduces the cycle time to completed interpretation and eliminates data transcription errors inherent in the traditional paper approach.

Cross section and 3d model construction and validation

Once a cross section or a 3d model has been constructed, Move provides a range of construction and forward modelling tools that add value to the collected data and allows you to test whether this interpretation is structurally valid. Applying structural algorithms to fault blocks identifies areas of structural risk and forward modelling offers tools to modify and significantly de-risk the interpretation. The 3d model can be built directly or by creating a series of internally consistent, balanced, cross sections. Switching from classic 2d views to full 3d visualisations significantly improves understanding. Advanced techniques including 3D restoration, strain analysis and fracture analysis can also be applied.



Output and Communication



Communicate the results or progress to colleagues, management or business partners. Move increases the understanding of structural concepts across organisations by communicating modelling workflows and results using MoveViewer. High end 2D and 3D visualisation includes extensive display options, stereo visualisation, high resolution image support (i.e. for satellite images), vertical exaggeration, colour mapping and Attribute 'Z' support whereby the object attribute is viewed along the 'Z' axis.



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www.mve.com or contact help@mve.com.**