RMAnet

Building RMA model networks... quickly

waterRIDE™

*RMAnet was developed by experienced RMA modellers/programmers to promote rapid creation of **efficient** finite element networks for the RMA suite of models. It was designed to help the modeller generate the network that they want in the shortest amount of time, rather than relying on automatic routines that may miss hydraulic subtleties or generate unwieldy networks.*
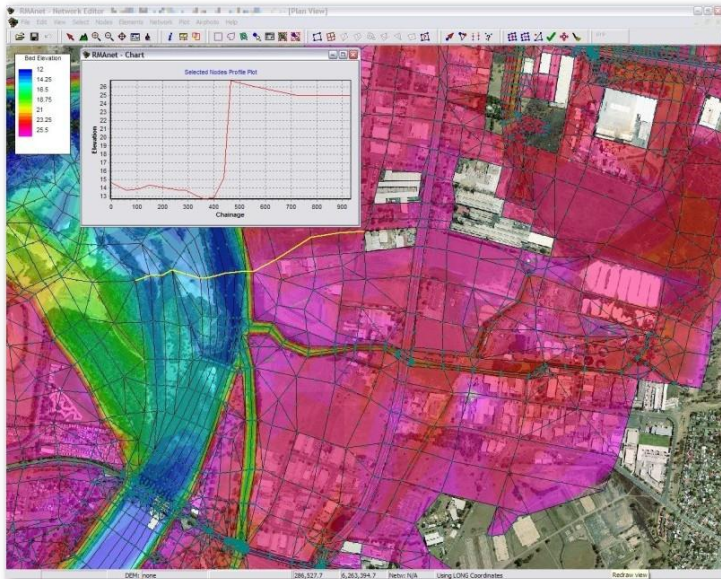
Network generation is mouse driven by intuitive graphic controls with the flexibility and speed of keyboard shortcuts. The underlying philosophy is based on the creation of elements with necessary nodes created automatically, rather than the more time consuming process of creating nodes and then joining them to create elements.

Elements can be created singularly, in blocks (grids), or triangulated from existing nodes. Node and element properties can be edited individually or in selected groups.

RMAnet contains all the basic tools for network creation as well as a host of advanced tools that dramatically increase the speed of network creation.

RMAnet is a full GIS interface/development environment, not just a graphical editor. This provides many advantages over standard graphical editors.

It was developed by RMA modellers to streamline the creation of quality finite element networks.
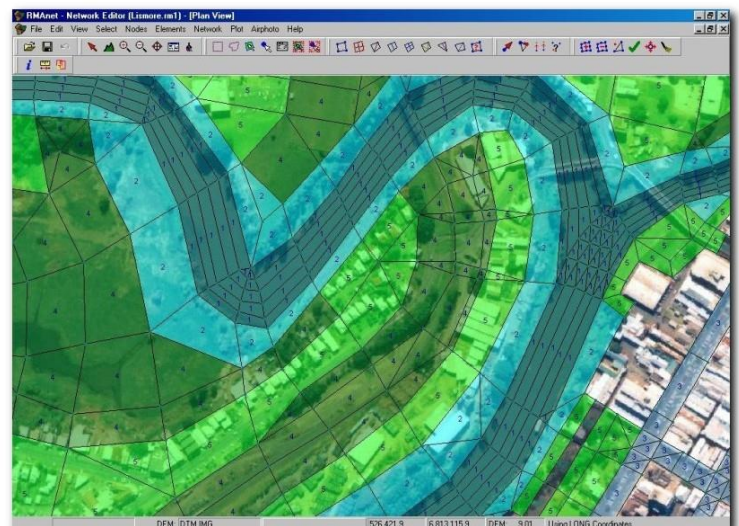

Intuitive and Fast User Interface

- Mouse driven interface with keyboard and toolbar shortcuts.

- Create elements instead of nodes first.

- Full GIS interface (zoom, pan, zoom window).

- Distance operators on nodes (eg readily place nodes at a certain distance from other nodes).

- Full functioning, multiple level undo feature increases flexibility of network refinement.

- Wide range of element refinement tools with full control over split/refinement direction and auto cleaning of adjacent elements.
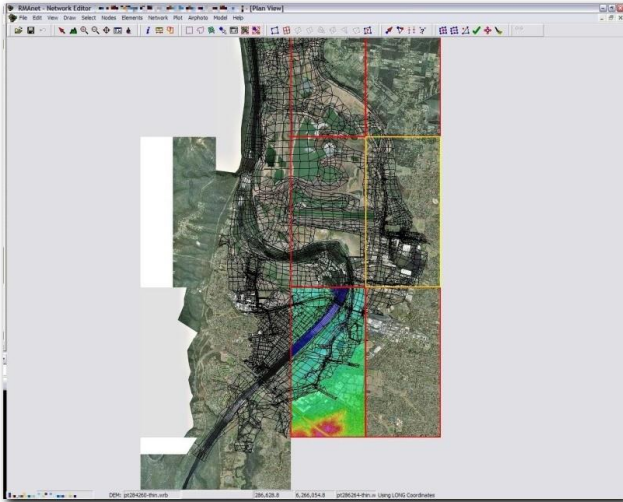

Full GIS Support

Build your model network with rich GIS datasets as a backdrop

- visualise the source Digital Elevation Model (DEM)

- aerial photography (JPG, TIFF, GeoTIFF, BitMap, ECW, MrSID, JPEG2000)

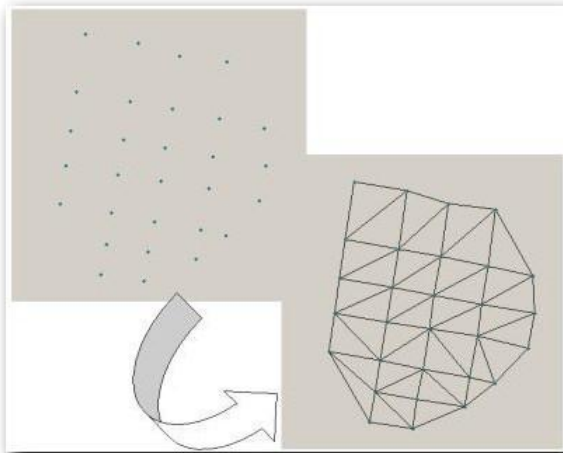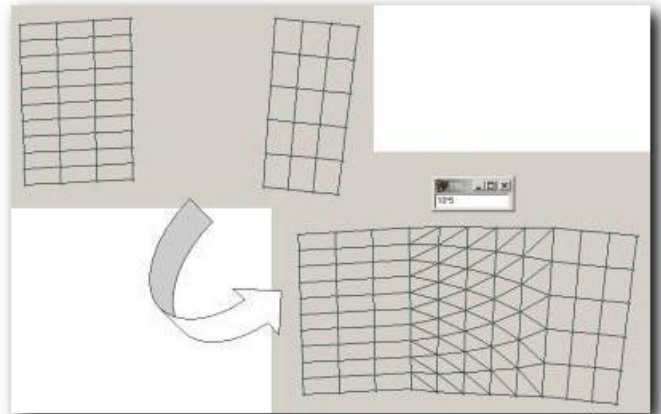- GIS layers (MapInfo, ESRI, AutoCAD, MicroStation, Google Earth KML)

Full Support For Digital Elevation Models (DEMs)

- visualise and interrogate the DEM(s) as you build your model network

- rapidly assign elevations to your network (all nodes, selected nodes, only nodes without an elevation etc)

- compare the network terrain approximation to the source DEM

- Utilise raster (grid) or TIN (triangulated irregular network) based DEMs

- Import existing DEM's from: 12D, MapInfo Vertical Mapper, ESRI Grid, ASCII Grid, Idrisi, ERDAS Imagine Grids)

- Create your own DEMs from raw datasets

- Access any of the DEM's in your project graphically.

Time Saving Network Building Tools

- Automatic creation of transition network blocks that transition from one element block to another taking into account variable block dimensions, shape, orientation and network density.

- Facilitates rapid transitioning from coarse to fine network geometry.

- Custom element blocks provide flexibility for adjusting the edges of your element blocks, or for creating elements of specific dimensions (eg 5.0m sides)

- Detailed error checking and visual tools help you locate issues with your network setup before they become problems.

Advanced Tools to Enhance Efficiency

Advanced tools such as:

- Automatic network generation through triangulation of existing or imported nodes with full control over which nodes are used in the triangulation.

- Linear transitioning of selected node elevations from a starting value to a finishing value.

- Moving selected nodes as a group

- automatic network cleaning

- Thematic colouring of element ordering and network elevation.

Rapidly Specify Properties of Nodes/Elements

- Advanced graphical editing facilitates rapid editing of the properties of nodes and elements, either individually or in groups.

- Select elements/nodes, right click and process nodes/elements as a group or sub group (eg nodes without elevations or elements without material types only).

- Select nodes/elements individually, using rectangle or polygon fences, or using SQL on node/element properties.

Tutorial

The RMAnet tutorial will help you get "up and running" quickly.