



# Summer 2008 Newsletter

## Visualyse Professional Version 7

### Contents

- 1 What is Visualyse Professional?
- 1 New in Version 7
  - Visualisation and GIS
- 2
  - Database interfaces
  - Terrestrial IFIC
  - Land Use databases
  - Google Earth interface
  - Orbit models and TLEs
  - Mask Integration and Frequency View
  - Other features
- 2 About Transfinite
  - Other Software Products

### Contact Us:

Transfinite Systems Ltd  
Green Dragon House  
64-70 High Street  
Croydon  
CR0 9XN  
United Kingdom

Tel: +44 20 8681 1918

[www.transfinite.com](http://www.transfinite.com)

[info@transfinite.com](mailto:info@transfinite.com)

Transfinite are pleased to announce in this newsletter the launch of Visualyse Professional Version 7.

### What is Visualyse Professional?

Visualyse Professional is the most widely used study tool within the ITU-R for interference analysis and radio compatibility with over 200 papers produced using it.

Visualyse Professional helps you model complex radio communication systems, whether terrestrial or satellite, through:

- Detailed gain pattern modelling – e.g. ITU-R Recs, imported data tables and GIMS contour beams
- Propagation models including terrestrial mobile, fixed & broadcasting, and earth to / from space
- Dynamics of mobile stations, ships, aircraft and satellites (GSO, HEO, and non-GSO)
- Access to intermediate calculations including link budgets, terrain path profiles, and geometry
- Link performance criteria including C, I, C/I, I/N, C/(N+I), PFD, EPFD, FDP, plus statistics where required
- Data import tools for station locations, fixed links, and IFIC / SRS for terrestrial and space stations
- Monte Carlo any variable or use a sequence of pre-defined values
- Interface to terrain and land use databases

### New in Version 7

Visualyse Professional Version 7 is a significant upgrade that allows you to analyse radiocommunication systems more quickly and more accurately.

This newsletter gives you an overview of some of the key new features – contact us if you have any questions.

### Visualisation and GIS

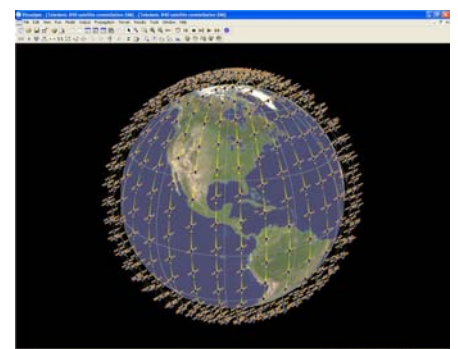
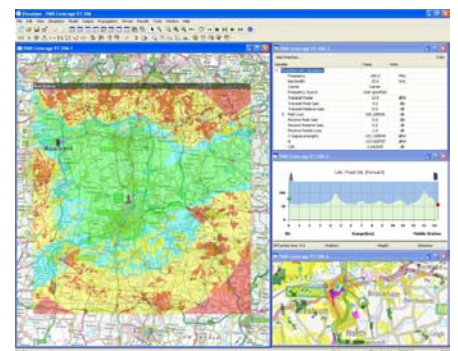
Visualyse Professional Version 7 includes major new visualisation and graphical information system (GIS) features.

The user interface includes integrated Plate Carree, Mercator, and 3D views powered by the latest Open GL technology.

On all of the views it is possible to overlay information such as raster data (maps), point data, and vector data (roads, borders, etc).

In addition you can show on all of these views Visualyse Professional's powerful Area Analysis output, plus terrain and land usage information.

For example the picture below shows an analysis of a private mobile network's coverage overlaid on top of a map and the following screen shot a large non-GSO constellation in 3D.



*Available now – contact us for your copy*

## Database Interfaces

Visualyse Professional Version 7 includes new, powerful database interfaces.

### Terrestrial IFIC

Visualyse Professional Version 7 can search the ITU's Terrestrial IFIC and load systems from it including broadcasting, mobile, and fixed stations.

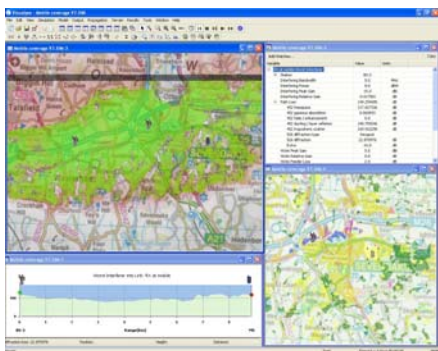
Searches can be undertaken by Administration, Frequency, Location, Receipt Date, Service type, and Filing Reason.

### Land Use Databases

Visualyse Professional Version 7 can read land use databases and include the data to derive clutter loss in:

- ITU-R Rec.P.452
- ITU-R Rec.P.1546
- ITU-R Rec.P.1812
- User defined propagation models

An example is shown in the figure below of coverage of a mobile network taking into account terrain and clutter, and showing the colour coded land use data overlaid upon a map.



### Google Earth Export

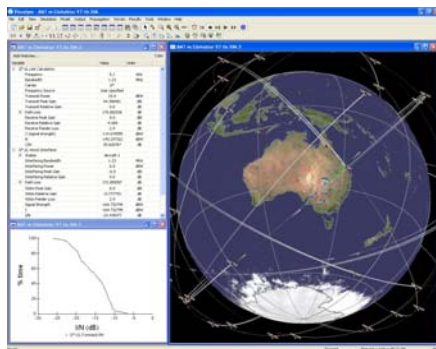
Output from Visualyse Professional can be exported into Google Earth (available from <http://earth.google.com/>) for even more visualisation and GIS features.

In addition, navigation within Visualyse Professional uses the same mouse map drag and mouse wheel zoom features as Google Earth.

## Orbit Models and TLEs

Visualyse Professional Version 7 includes improved satellite orbit modelling with interface to TLE format data and J2 orbit model.

The screen shot below shows analysis of sharing between a non-GSO constellation defined via its TLE orbit parameters and aeronautical mobile telemetry (AMT).



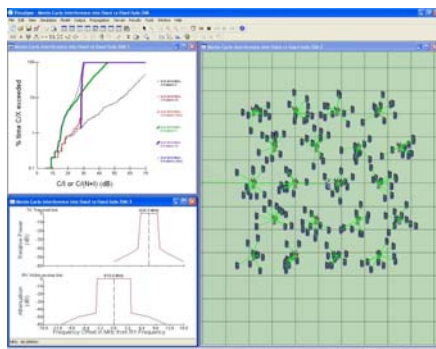
### Mask Integration and Frequency View

An important part of managing the radio spectrum is to analyse interference from systems in adjacent bands.

This can be complicated due to the need to calculate the Net Filter Discrimination (NFD) between one system's transmit spectrum mask and the other's receive filter.

However Visualyse Professional Version 7 can make this simple, automatically and accurately integrating the two masks to derive a NFD.

It can also show the two masks graphically in the new frequency view, as in the example below.



This file shows a "Digital Dividend" simulation using Monte Carlo methods to analyse interference into DTT fixed receivers from an adjacent band 3G network.

### Other Features

Other new features in this major update to Visualyse Professional include:

- Hexagon cell deployment wizard
- Hexagonal randomisation of mobiles as an update to the Define Variable Module
- Additional database format of converted SRTM data as an update to the Terrain Module
- Reporting tools such as new Table View
- Improved Area Analysis controls to allow additional flexibility
- Ability to define your own default parameters for each of the graphical views
- ITU-R Recommendations updated to the latest versions
- Calculate contour gain patterns using ITU-R GIMS DLL

### About Transfinite

We are one of the leading consultancy and simulation software companies in the field of radio communications.

Our business activities can be broadly categorized into three main areas:

- Consultancy services
- Software products
- Technical training

### Other Software Products

Ask for more information about our other spectrum management and interference analysis tools:

- Visualyse GSO
- Visualyse Coordinate
- Visualyse Spectrum Manager