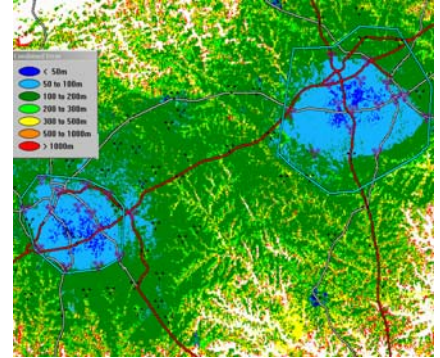


# LocatePredict®

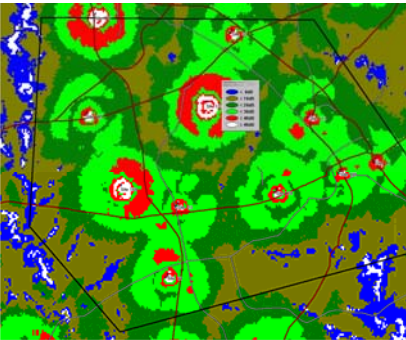
## Predict ▪ Deploy ▪ Optimize

The performance and geographical coverage of a wireless location system is essential for your emergency and commercial business-critical applications. TechnoCom's "best in class" **LocatePredict®** location performance, network planning and analysis platform is used to predict the performance of network-based location systems.

Based on a collection of network data, LocatePredict will predict if location sensors meet, exceed, or fall short of providing the expected coverage and performance in a test area. LocatePredict provides key data to help you meet FCC and EC regulations and satisfy customer and subscriber demands.



## About LocatePredict



LocatePredict allows you to design and optimize new networks, evaluate and troubleshoot existing ones and support ongoing performance monitoring and planned enhancements.

LocatePredict runs on Windows, uses an intuitive Graphical User Interface (GUI), and has a well-defined set of data import and export interfaces. It has easy-to-use value functions to let you tailor the models to your wireless and location networks, and its patented algorithms ensure the most accurate, reliable and verifiable predictions.

LocatePredict has been successfully applied to analyze, audit and optimize multiple Uplink Time Difference of Arrival (U-TDOA), Angle of Arrival (AOA), Enhanced Observed Time Difference (E-OTD), and hybrids of these angle and time of arrival schemes — meeting a variety of applications and end-user requirements. It has also been used to model empirically based RF signature and signal strength schemes. Planned enhancements to LocatePredict include combinations of GPS based techniques with terrestrial network based technologies.

## About TechnoCom

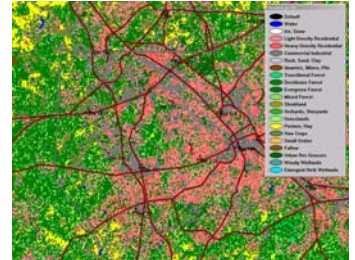
**TechnoCom™** is a leading-edge provider of solutions to enable wireless location services and assure their ongoing performance. We offer location network support solutions combined with related professional services to wireless operators, service providers and system integrators. Our reputation for service, performance and excellence — along with our history of on-time delivery — are the reasons customers select TechnoCom as a long-term partner.

# LocatePredict®

See how our expertise in prediction, design, planning and testing leads to better service for your customers and attractive savings for you.

The powerful LocatePredict platform delivers flexible features and permits the use of simple defaults in a user-friendly environment.

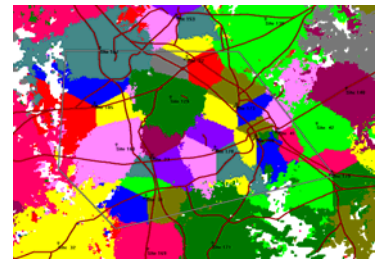
**Terrain** — LocatePredict lets the user capture small or large areas of terrain with the desired levels of analysis and mapping resolution. You can also choose to limit your computation to a subset of your project's terrain to save time and quickly turn around what-if analyses.



**Morphology** — The application of morphology maps in the analysis is unique to LocatePredict. Signal dispersion and angular anomalies are accounted for with our patented algorithms. Morphology parameters can be varied from default to the most accurate and up-to-date. LocatePredict allows you to refine your predictions in unique environments.

LocatePredict reflects our team's expertise in both the theoretical and practical aspects of wireless system design across air interfaces.

**Cellular Prediction** — An accurate cellular prediction is critical to identifying the footprint for location coverage. It also impacts location performance through handset response to serving base station signals. Dialog boxes allow you to edit individual RF equipment and link margin parameters. You can also import those parameters through a simple standard interface.



**Mobile Unit Power and Power Control** — You can model power control and vary link imbalance depending on your operational criteria and base station and switch capabilities. LocatePredict computes and plots mobile unit transmit power and captures possible location coverage holes near cell sites.

## Specifications

### Air Interfaces

GSM, TDMA, AMPS, iDEN, other time or frequency division-based modulation signals

### Network

U-TDOA, AOA, EOTD, RF signal strength, hybrids

### Operating System

Windows XP, Windows 2000, Windows 2003 Server

### Minimum Recommended Computational Platform

2 GHz CPU, 1 GB RAM, 100 GB hard disk

### Input files and Formats

Terrain and Morphology (ArcASCII); Roads and Polygons/Shapes (MapInfo.mif); Antennas (Planet); Points & Measurements (.txt, .csv)

### Outputs

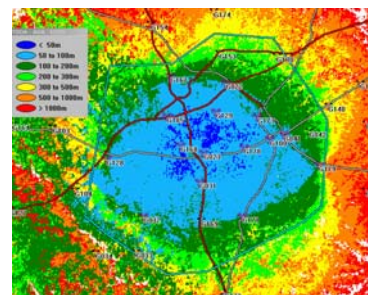
All mapped results (e.g., best server, forward and reverse signals, location coverage, location error) in ArcASCII or .bmp; statistics in .txt, database in SQL, database content in .csv

# LocatePredict®

## Features

LocatePredict generates a map showing the number of sensors providing location coverage to help in performance analysis, optimization or troubleshooting.

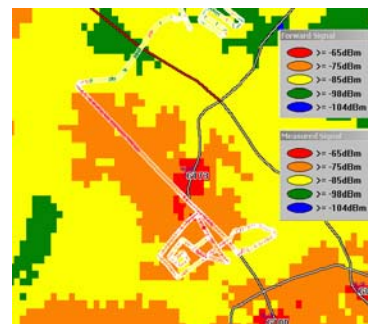
**Location Error** — Sensor errors are combined with propagation and morphology induced errors and used in a covariance matrix that accounts for geographic effects. This patented approach is both rigorous and accurate. For each map point an expected error is obtained from the error ellipse. The location error is expressed in meters and displayed in a color-coded map for the project area.



- **Polygon Selection** — For maximum flexibility in your analysis, you can select an arbitrary polygon by mouse clicks or by importing a shape or other standard file (e.g., for a county or PSAP boundary).
- **Statistics** — Weighted and unweighted statistics can be determined to identify the effects of wireless traffic and population on location performance.

**Custom Modules** — You can tailor your analysis with LocatePredict to your unique network or technology. Plug-in modules developed by you or by TechnoCom let you add specialized functionality and models. (Example modules handling interference effects and receiver sensitivity.)

**Comparison of Field Data with Predictions** — LocatePredict can import large amounts of field test data. This enables you to tune prediction models and validate baseline predictive performance in a range of environments and markets.



**Model Tuning** — LocatePredict includes sector-specific models that can be “tuned” by manual and automatic adjustments to existing coefficients. Point-slope models can be created with test-drive data, and an external DLL link provides access to external propagation models.

- Location and RF data collected from TechnoCom’s **LocationAssurance Manager® (LAM)** test probes is ideal for inclusion into the performance analysis with LocatePredict. LAM proactively monitors the end-to-end location system, identifies trouble spots and analyzes the true Quality of Service (QoS) experienced by the subscriber.

**GUI Flexibility and Well Defined Interfaces** — LocatePredict has a number of display functions including zoom, pan, pallets and result map registration choices.

**Project and Edit Options** — Its rich menu allows you to edit global parameters for various projects as well as attributes specific to various classes of data used such as **Antennas, Mobiles, Models, Sectors, Sites and Terrain and Morphology files.**

**Diagnostics** — A host of diagnostic functions are built into LocatePredict to let the expert user investigate and troubleshoot intermediate computations.

## Benefits

TechnoCom is the clear choice when it comes to choosing a technology neutral company for your wireless location system planning. We ensure access to data from multiple sources, seamless integration, and a powerful software product useful in the planning, deployment and optimization of your wireless system.

**Find out what key benefits make LocatePredict the best solution for planning and managing your location network.**

**Improved Quality of Service** — LocatePredict delivers key information about expected accuracy, availability and coverage of your location network — meeting performance expectations while optimizing your financial outlay.

**Fast Return on Investment** — LocatePredict's flexible modeling allows fast "what-if" analyses without altering deployment assets or mobilizing field resources. LocatePredict greatly simplifies the planning of location asset redeployment.

**Powerful Models with Verifiable Results** — LocatePredict combines TechnoCom's patented and rigorous prediction algorithms with the ability to tune and refine models with both RF and location field test measurements. LocatePredict's open platform allows the inclusion of customer-specific models and modules and guarantees the most cost-effective, true representation of your network.

**Easy to Use** — LocatePredict's intuitive and flexible GUI and well-defined input and output file formats give you maximum control of your database, keep training costs low and deliver all of the features you need to design your network and plan for future growth. LocatePredict is also a stand alone tool that can be easily interfaced to perform as a location prediction engine with other more general-purpose RF prediction tools.

**Unmatched Expertise** — TechnoCom's accomplished history of deploying TDOA, AGPS and other hybrid systems for both commercial and E911 allows you to concentrate on your core business — saving time and money.

In fulfilling a licensed product deployment program, TechnoCom can offer supporting system design, equipment installation and commissioning coordination, troubleshooting, field testing and certification services.



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