

IS SPATIAL SPECIAL

TOP TEN TECHNOLOGY BREAKTHROUGHS IN GEOSPATIAL INDUSTRY

Vincent Tao, PhD

Innovations

1876	<i>Telephone</i>
1980	<i>FAX</i>
1995	<i>Internet</i>
2000	<i>e-commerce</i>
2002	<i>m-commerce</i>
2005	<i>L-commerce</i>

... ..

Market Call

“U.S. Department of Labor identified **geotechnology** as one of the three most important emerging and evolving fields, along with **biotechnology** and **nanotechnology**.”

- January 22, 2004 issue of *Nature*

Geospatial Industry



SOURCE: ZURICH AMERICAN INSURANCE

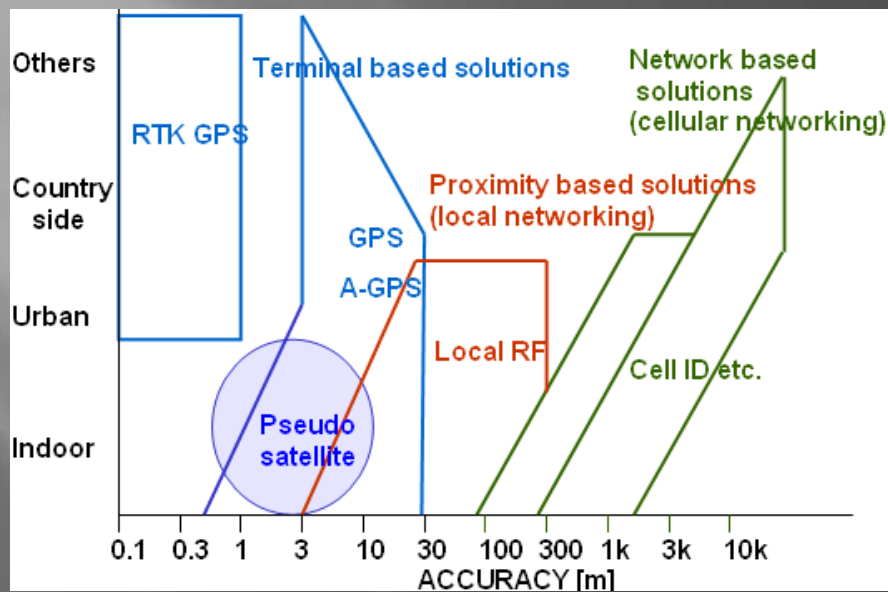
Positioning #1 GPS

- Gained the mass market adoption !
- In 2002, Close to **\$1B acquisition** of Signalsoft by Openwave Inc



Evolution of GPS receivers

Positioning #2 Network based Location



Positioning #3: Ubiquitous Tracking (RFID)



Jacobs family: Jeffrey, Leslie and Derek
The first American family accepted the
Implant of RFID devices (see right)



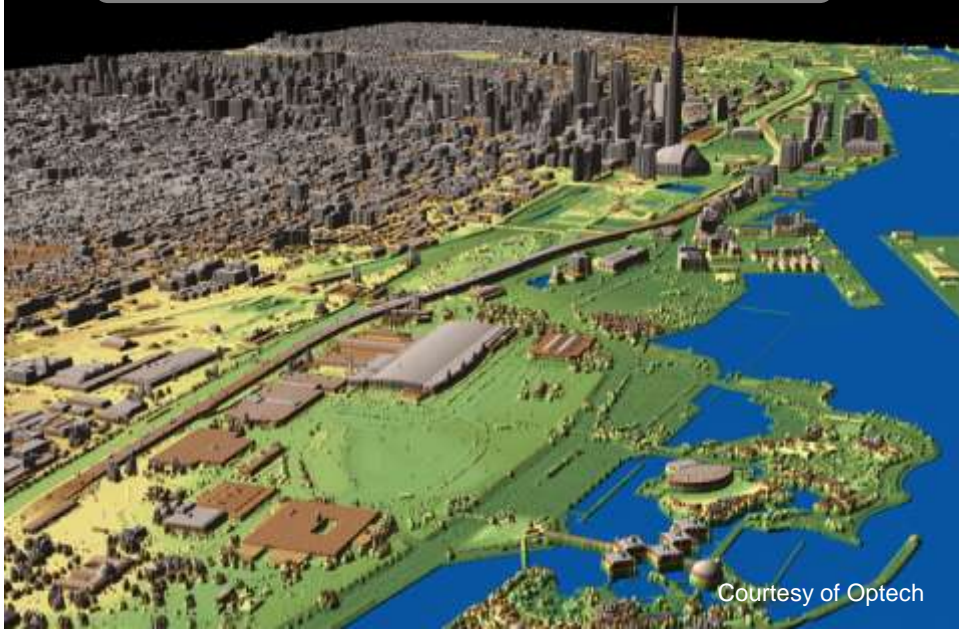
8 Digital
Cameras

INS

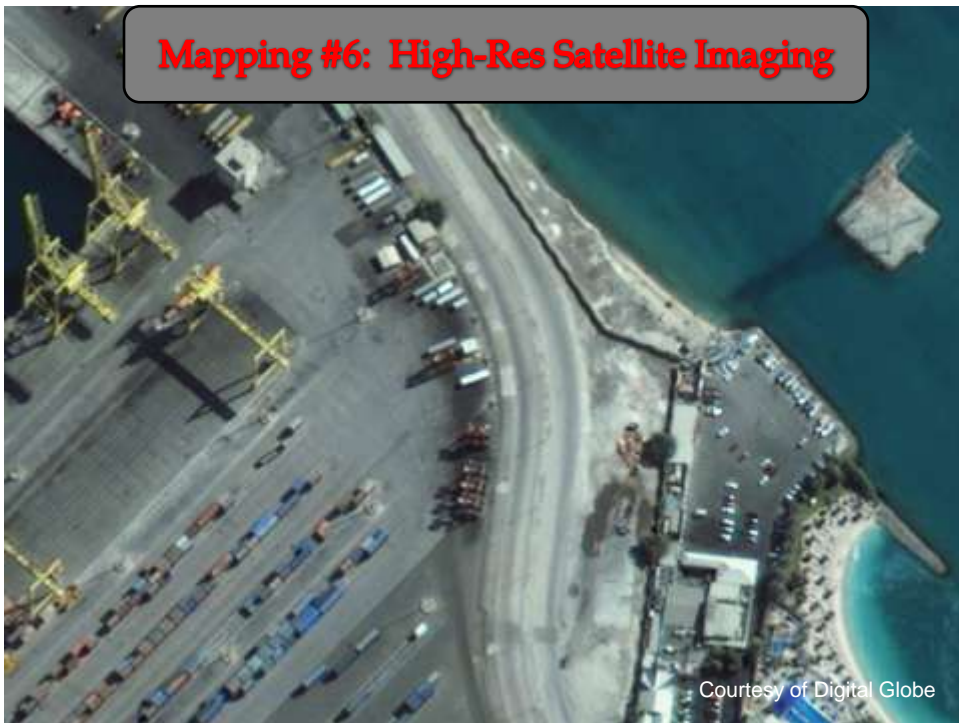
GPS
Antenna

Mapping #4 Vehicle-based Mobile Mapping

Mapping #5: Lidar/Laser Scanning



Mapping #6: High-Res Satellite Imaging



GIS #7: Data Centered GIS

- ❑ Major developments in Ex-R and O-R data models
- ❑ Oracle Spatial, IBM DB2, Informix, ESRI SDE, MapInfo SpatialWare , ...

Oracle: No GIS anymore but databases

GIS #8: Componentized GIS

- ❑ plug 'N play software components
- ❑ Intergraph Geomedia, ESRI MapObjects
MapInfo MapX, ...
- ❑ Microsoft MapPoint (\$299)

Microsoft: Nothing is special about GIS

GIS #9: Internet Mapping

- June 29, 2000, AOL acquired MapQuest.com in an all-stock transaction valued at approximately **\$1.1 billion**.

MAPQUEST.

Spatial #10: Rich and Immersive Map Experience

