

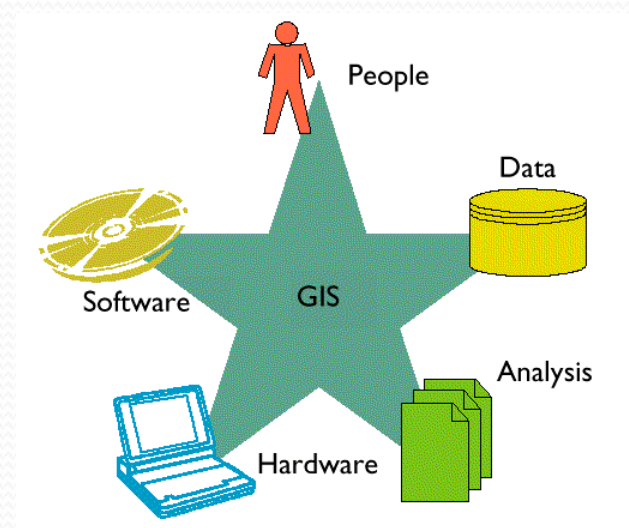


↗ GTP Spatial Solutions

Geomatics Division

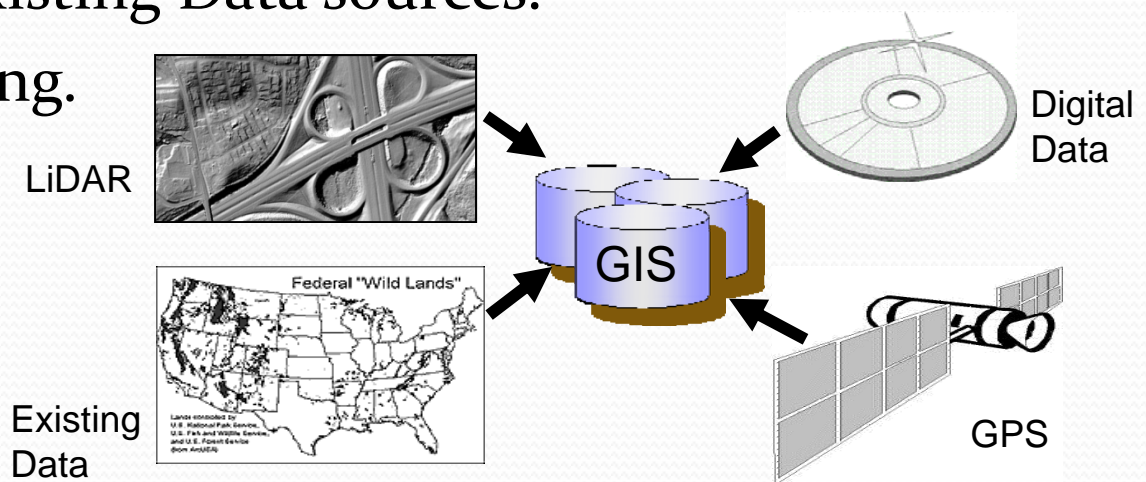
Geographic Information System

- Data Collection.
- Mapping.
- Spatial Analysis.
- Spatial Database Design and Implementation.
- GIS Application Development.
- Spatial Website Development.



Data Collection

- The Geomatics Team has Terabits of Data stored in their secure onsite databases. For data not in our system our team has great experience in collecting data through the following means.
 - Researching Existing Data sources.
 - GPS or Surveying.
 - Imagery.
 - LiDAR.



Data Collection

Researching Existing Data Sources

- There are many different places and ways of finding existing data. We have partnerships and great working relationship with many data vendors and other GIS operations that may have the necessary information. The Geomatics Team collects data from the following.
 - Internet
 - Local Universities
 - Data Warehouses
 - Government Sites

Data Collection

GPS and Surveying

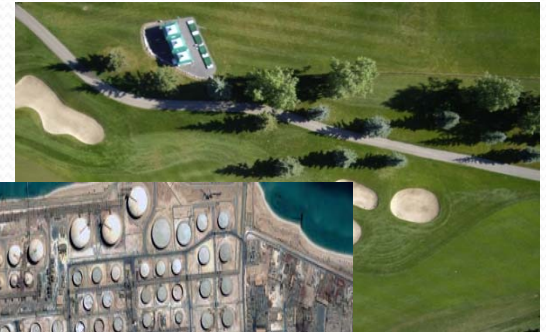
- The surveying team uses a variety of means of collecting GPS and Survey data. The following are the main techniques.
- Handheld GPS – Sub-Meter Accuracy.
- Real Time Kinematics (RTK) – Centimeter Accuracy.
- Total Station Surveying – Millimeter Accuracy.
- 3D Laser Scanning – Sub-Centimeter Accuracy.

Data Collection

Imagery

- We collect imagery data from a variety of suppliers. The following are some of our means of collecting Imagery Data.
- Satellite Imagery.
- Aerial Photography.
- Remote Controlled Helicopter and Gliders.

High Resolution
Aerial Photography



Satellite
Imagery



Data Collection

LiDAR

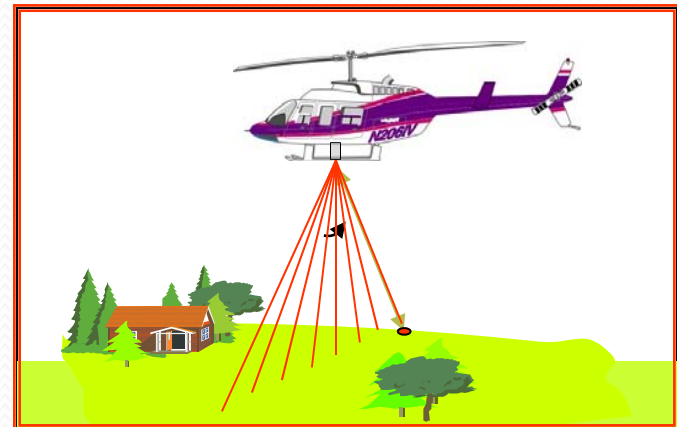
- What is LiDAR?
- What is LiDAR used for?
- What are the Advantages of LiDAR?



Data Collection

What is LiDAR?

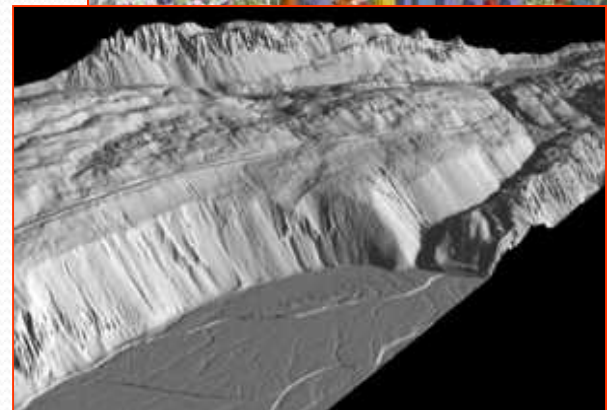
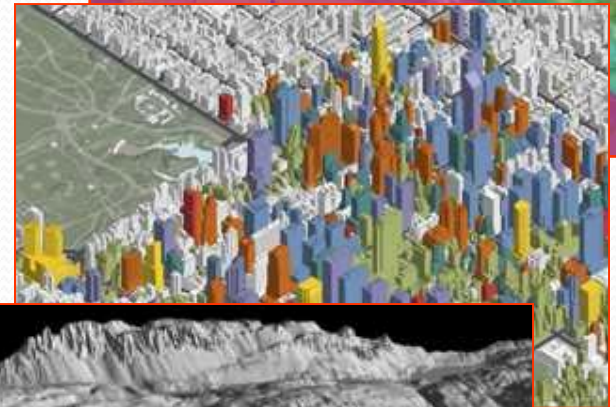
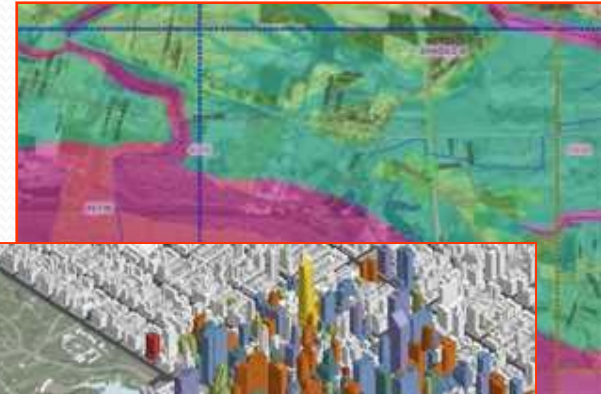
- Light Detection And Ranging (LiDAR)
- The application of a number of modern technologies to provide fast, efficient and cost effective surveys.
- Builds a Point Cloud with X,Y and Z values.
- Point Cloud can be analyzed to create 3D model.
- Z Accuracy 6 – 30 cm.
- XY Accuracy 10 – 46 cm.



Data Collection

What is Lidar Used For?

- Military Applications.
- Tourism Application.
- Network Planning.
- Urban Planning.
- Logistics Planning.
- Resource Exploration.
- Transportation Planning.



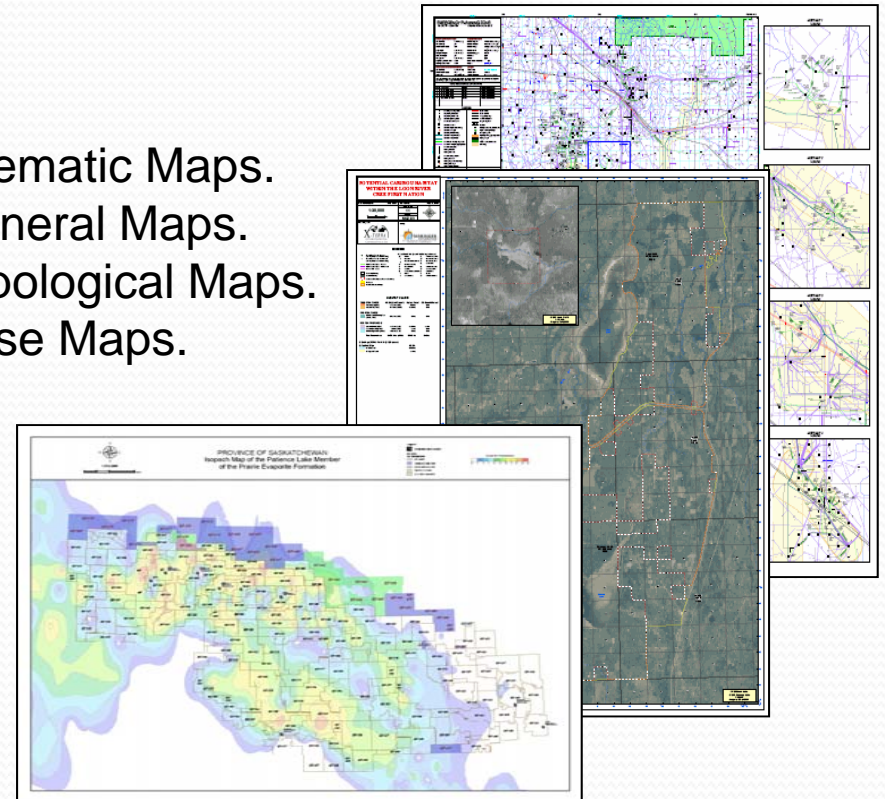
Data Collection

Advantages

- Highly Accurate.
- Acquisition can take place day or night.
- Acquisition can take place in most weather conditions.
- Fast Data Collection (200,000 points per second).
- Little or no need for access.
- Performs well in Vegetation.
- Robust data sets with many possible products.
- Cost saving for large projects.

Mapping

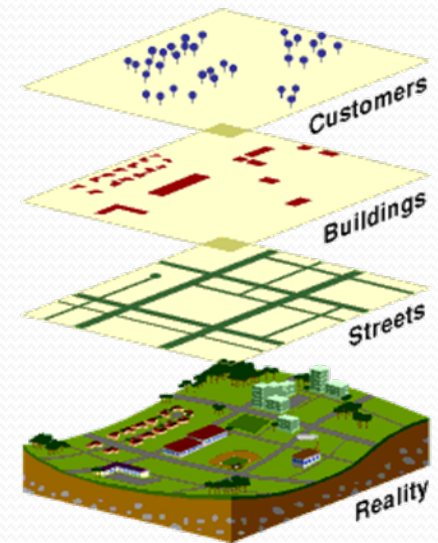
- With highly experienced cartographers and GIS technicians the mapping team produces unparalleled maps for a wide range of clients.
- Map Examples:
 - Pipeline Maps.
 - Environmental Maps.
 - Wildlife Maps.
 - Emergency Response Plan Maps.
 - Seismic Mapping.
 - Thematic Maps.
 - General Maps.
 - Topological Maps.
 - Base Maps.



Spatial Analysis

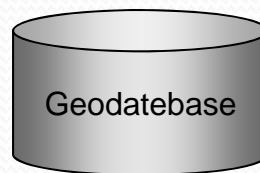
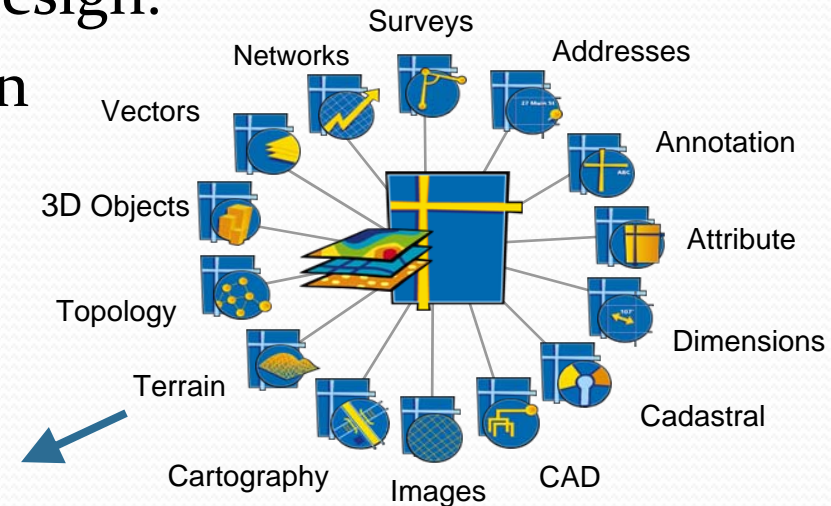
- Through custom in house designed and the latest in GIS technology the GIS team can perform hundreds of Spatial Analysis tasks. Below are just a few of the Categories of Spatial Analysis we do.

- Proximity Analysis.
- Overlay Analysis.
- 3D Data Analysis.
- Tracking Analysis.
- Geostatistical Analysis.
- Network Analysis.
- Line of Sight Analysis.
- Location Intelligence.



Database / Data Storage

- Our team includes professional Database Administrators specializing in Oracle and SQL Server. Our database team can:
 - File and Personal Database Design.
 - Oracle and SQL Server Design and Implementation.
 - Database Optimization.



GIS Application Development

- The Geomatics Division have GIS developers on staff that can produce efficient and effective application in a timely and cost effective manner. The following are some of the types of tools we build.
 - Custom Forms.
 - Custom Reports.
 - Custom Geoprocessing tools.

GIS Website Development

- The Geomatics Division have GIS developers on staff that can produce efficient and effective application in a timely and cost effective manner. The following are some of the types of websites we build.
 - Spatial Information sites.
 - Spatial Data Portals.
 - Spatial Analysis sites.