

# PIESA- IERE TIS AFRICA WORKSHOP MALAWI 29 AUGUST – 1 SEPTEMBER 2011



## Geographic Information Systems (GIS) – The Success Factors

Adri de la Rey  
Eskom  
South Africa

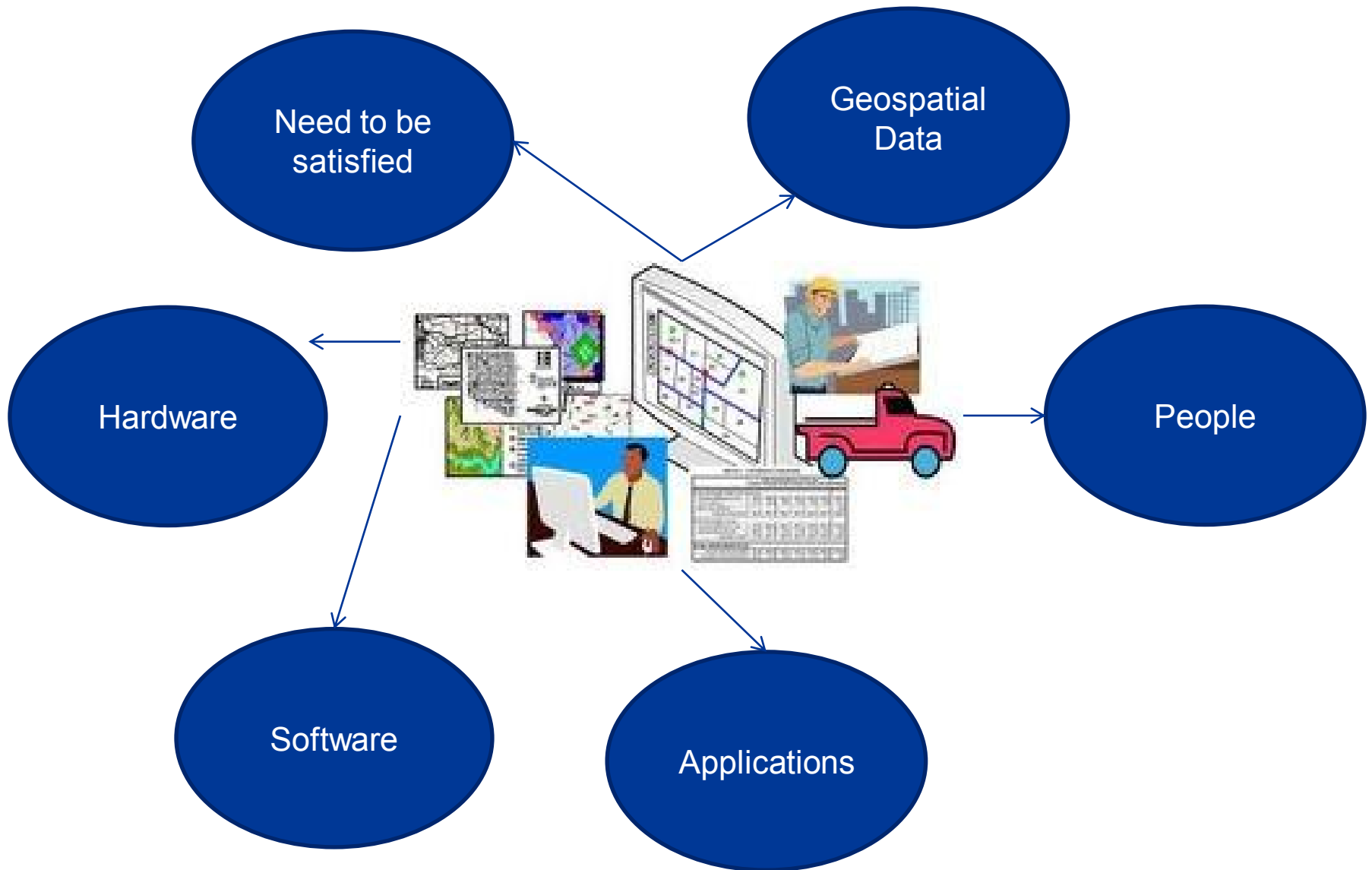
- **What is a Geospatial Information System (GIS) ?**
- **Needs covered by a GIS**
- **What is needed for a GIS**
  - **Geospatial data sets**
  - **Different users of GIS**
- **Conclusion**

# What is a GIS?



- Physical Infrastructure: Planning Route and Site selection, Physical infrastructure planning
- Operational activities for any organisation: Maintenance, Marketing and Deliveries, Manage resources
- Creating footprints: (e.g. Spreading of diseases, Catchments areas for retail, Health facilities Monitoring of pollution)
- Support decision making: What if questions, Weighting Alternatives
- Budgeting (e.g. Aid capital)

# What is needed for a GIS



- **Core Geospatial Data sets**
  - Available free - Government departments
  - Needs - Cleaning/ Customisation/ Conversion/ Maintenance
  - Vendors provide services commercially Sustainability
- **Complementary Geospatial Data**
  - Specific Custodian for a specific need -Not always needed for General GIS - Specific needs
- **Proprietary Data sets**
  - Enterprise own creation - Direct result of its activities needs
  - Result of not freely available / maintained / manufactured

# Characteristics Geospatial data

Off the Shelf

Classification – Supply Chain

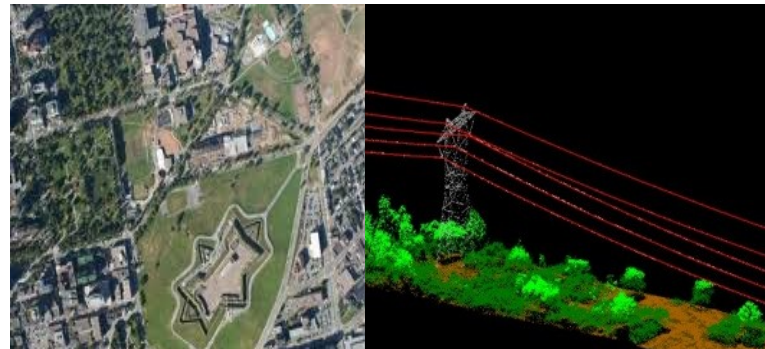
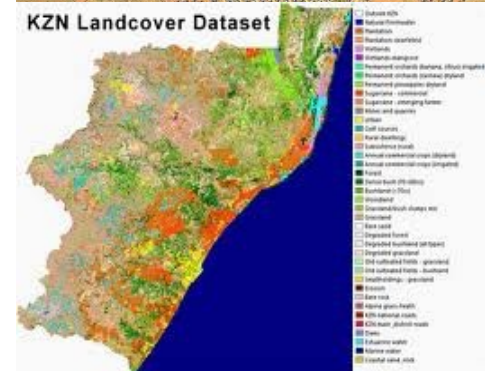
Engineered

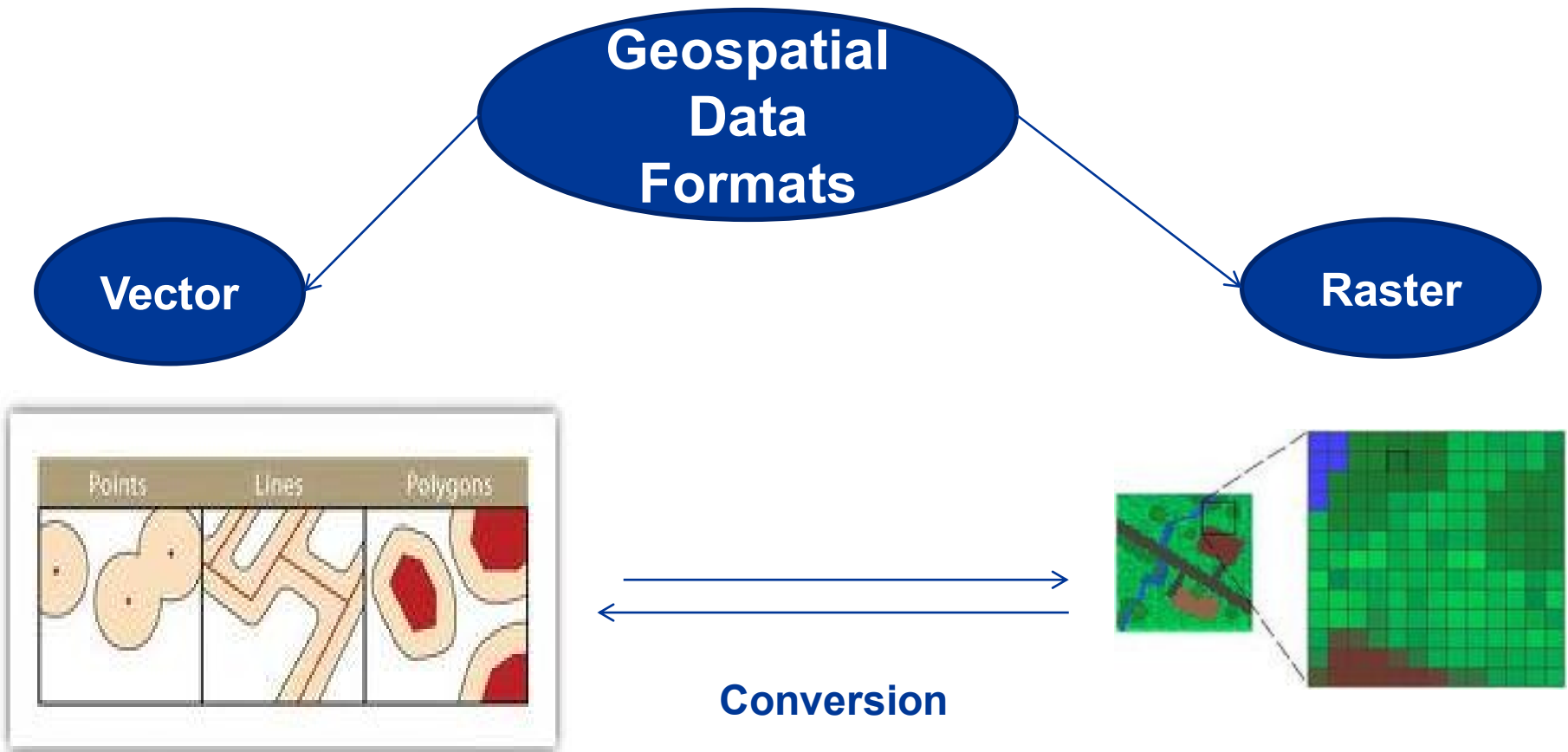
Roads/Cadastral/Rivers

Derived/Value Added/Plan Design Create Maintain

Made to Order

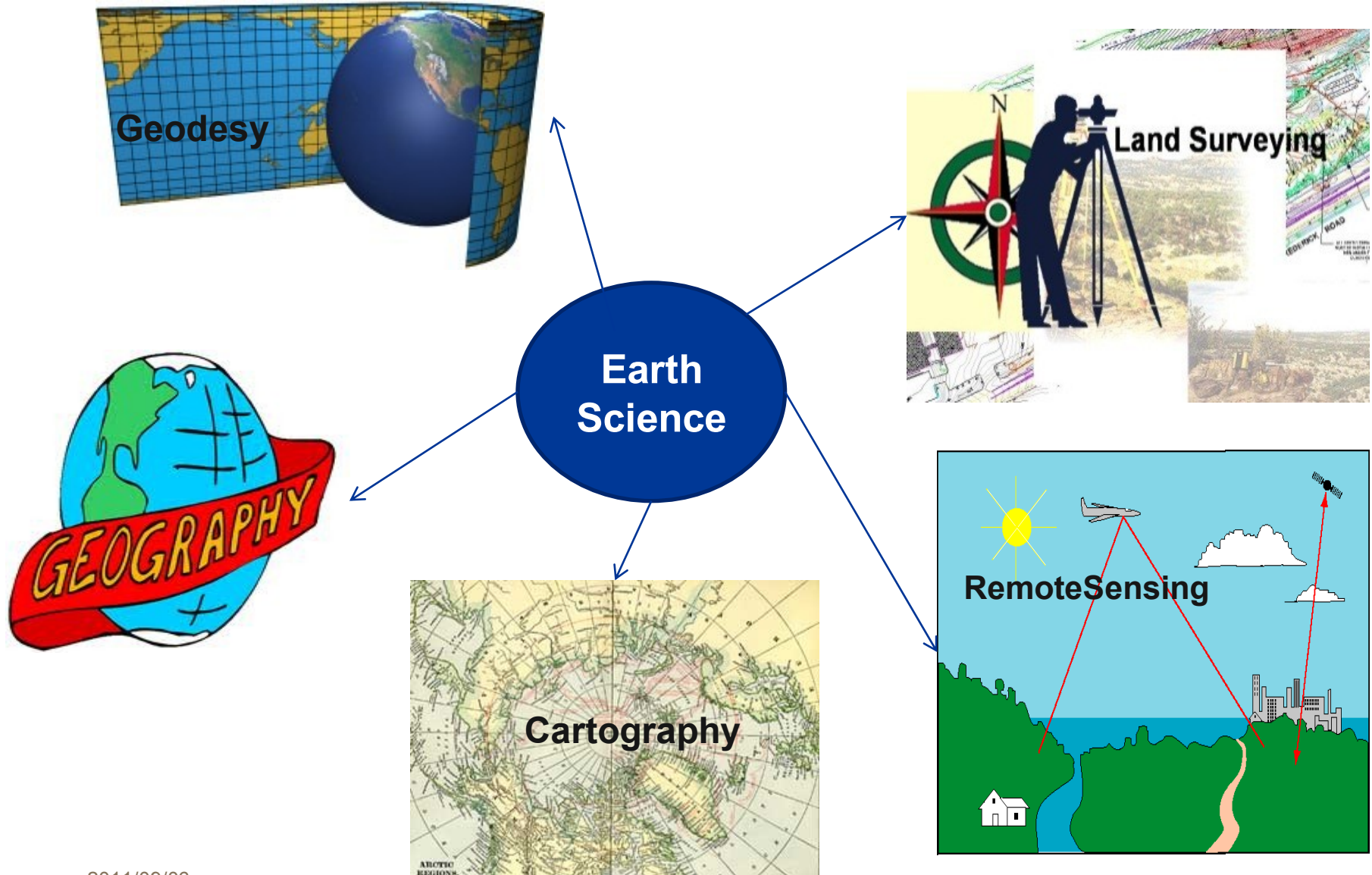
LSAP / LiDAR







# Education Required for GIS



# Education Required for GIS



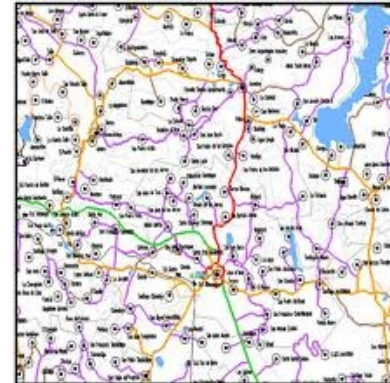
Who  
When  
How  
Why

Data  
Management



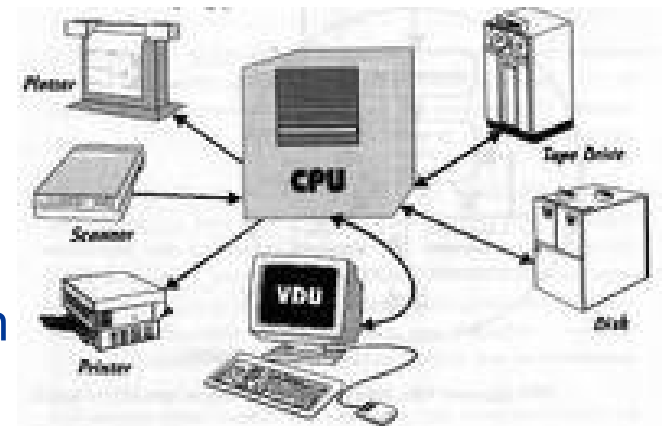
- **Software**

- Vendor specific
- **Open Source**
- Single users versus Enterprise user



- **Hardware**

- Vendor specific
- Single users versus enterprise users
- Volume of data storage dissemination



- Vector/Raster
- **Google Viewing tool**

- **Technical Educated Spatial User (Specialist or Super User)**
  - High Skilled GIS Professional (GIS Career)
  - Support other GIS Users
  - Attend to Modelling and Spatial Analysis
- **Decision Maker / Planner**
  - Desktop Users / Subject Matter Experts
  - Use GIS as Decision Making Tool
- **General User**
  - Use GIS as a Tool – Via Web
  - Viewer – Maps Google Bing Map

- **Holistic but Logical Approach**
  - Skilled / Trained People
  - Current, Fit for Purpose Spatial Data
  - Applicable Software / Hardware
- **Close Collaboration**
  - GIS Specialist,
  - Data Custodian,
  - End User &
  - Information & Communication Technology (ICT)

- **Starting GIS**
  - People &
  - Geospatial data collaboration
  - Open source GIS migrate to more sophisticated software
  - Desktop even Laptop migrate to more sophisticated hardware
  - Google as your viewing tool