## GEOSPATIAL INDUSTRY: MOVING UP THE VALUE CHAIN

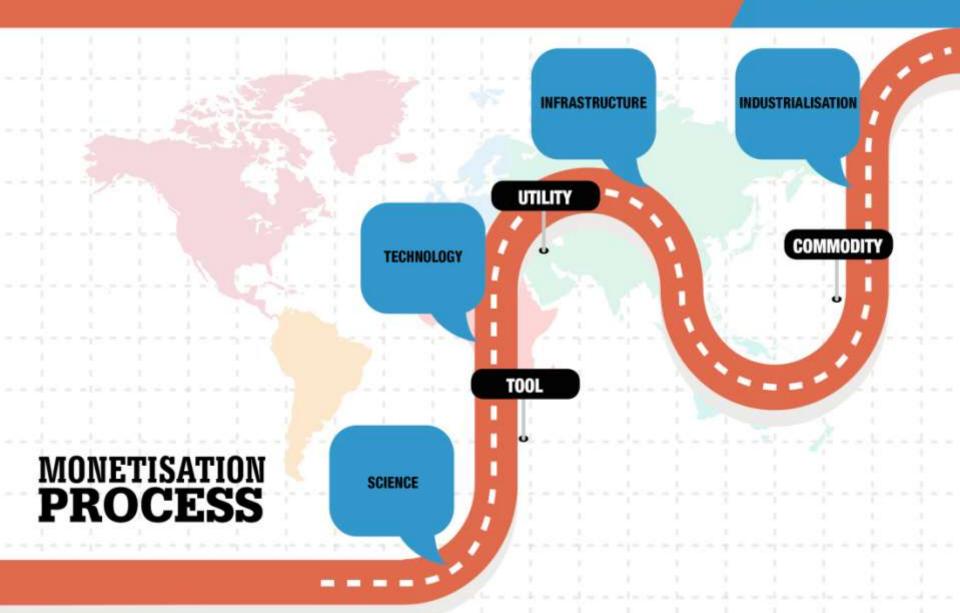
### SANJAY KUMAR, CEO Geospatial Media and Communications Pvt. Ltd





# EVOLUTION

### VISUALISATION TO INDUSTRIALISATION



GEØSPAT

### POSITION TO PRECISION

### GE SPATIAL

#### UP TO 10M

#### UP TO 1M

#### CENTIMETER LEVEL

### MILLIMETER LEVEL



- ☑ Navigation
- ⊔ Land Use
- ☑ Telematics
- **□** Forestry
- ☑ Environment
- ☑ Business Analytics



- **⊠** Mapping
- ⊔ Utilities
- ↘ Transportation
- ⊻ Marine
- ☑ Oil & Gas



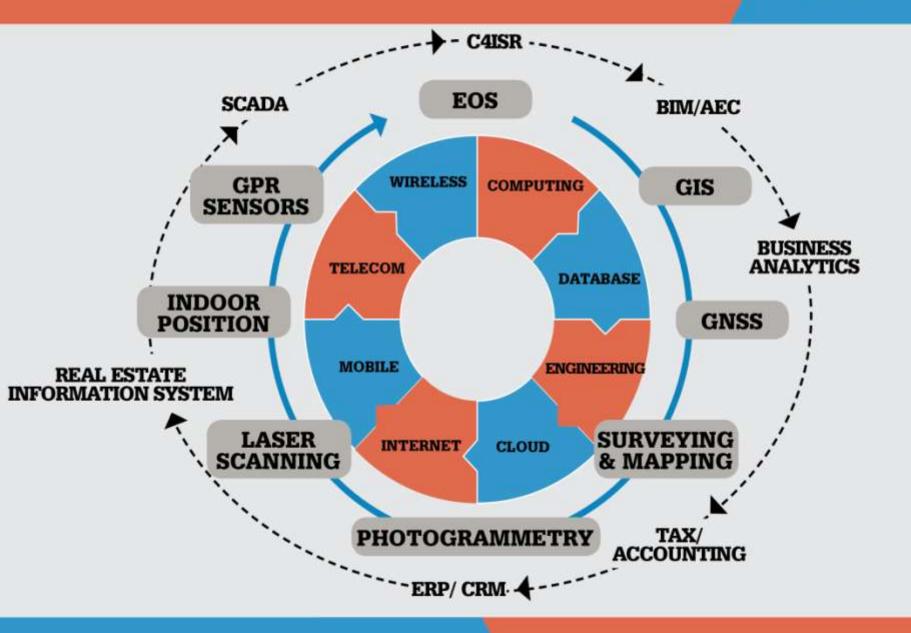
- ⊔ Mining
- □ Archeology
- ☑ Architecture
- ☑ Construction
- **⊔** Land Admin
- □ Indoor Positioning
- ☑ Machine Control



- **∠** Engineering
- ☑ Manufacturing
- ☑ Industrial Workflow
- **⊠** Metrology
- **⊠** Seismology

### INDUSTRY ECOSYSTEM



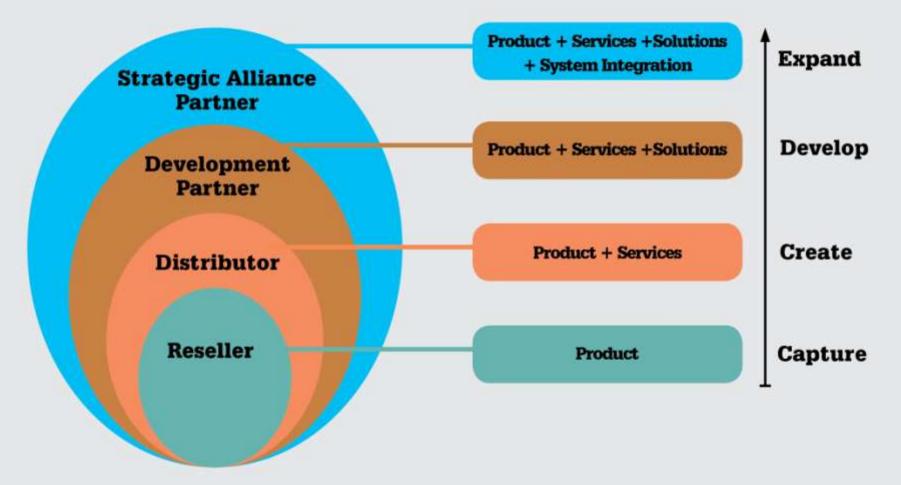




# CHANGING MATRIX OF BUISINESS MODEL

### EVOLUTION OF INDUSTRY

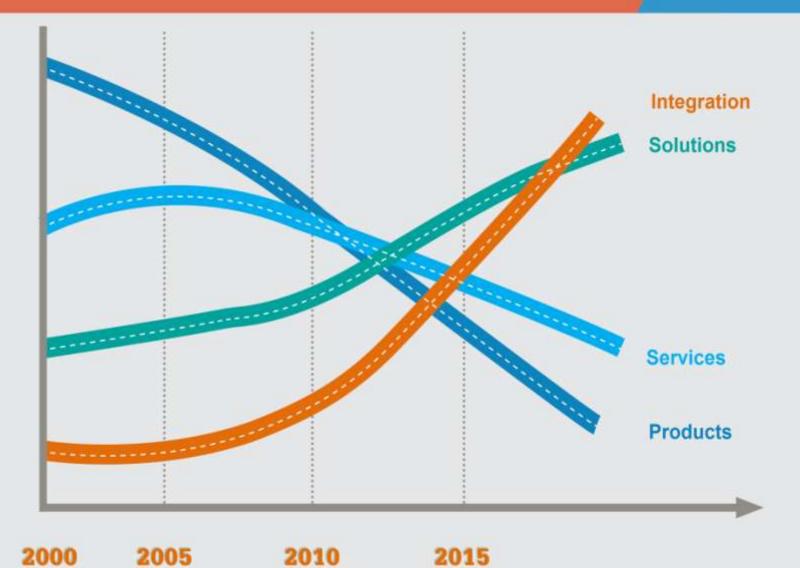




Moving up the value chain

### EVOLVING SALES MODEL





### PARTNERSHIP MODEL



#### **TOPCON:** Sokkia

BENTLEY: elcoSystem + Ivara + InspecTech

TRIMBLE: Info + Ashtech + Spectra + Applanix + Gatewing + Tekla

HEXAGON: Erdas + Leica + Novatel Geomax + Aibotics Intergraph + Distributors in Emerging Markets

### TECHNOLOGY ORIENTED/MARKET CONSOLIDATION ACQUISITIONS

HEXAGON: Safe Mine, ILab; Arvus

TOPCON: Wachendorff Electronics; DynaRoad

BENTLEY: Acute3D; C3GLobal

TRIMBLE: Fifth Element; Linear Project; IRON Solutions; Mining Information Systems

SOLUTION ORIENTED ACQUISITIONS BY GEOSPATIAL COMPANIES AMAZON + UPNEXT = 3D Cloud

PITNEY BOWES + MAPINFO = Mailing Business

FACEBOOK + GOWALLA = Social Media

MICROSOFT + VEXCEL = Spatial Dimension

### COMPETITIVE ADVANTAGE ACQUISITIONS BY MAINSTREAM COMPANIES

HEXAGON: Esri + Accenture

TOPCON: Autodesk + TORO + Komatsu

BENTLEY: Trimble +

TRIMBLE: Bentley + Caterpillar + John Deere + Vico + IFICON

SOLUTIONS CENTRIC PARTNERSHIPS



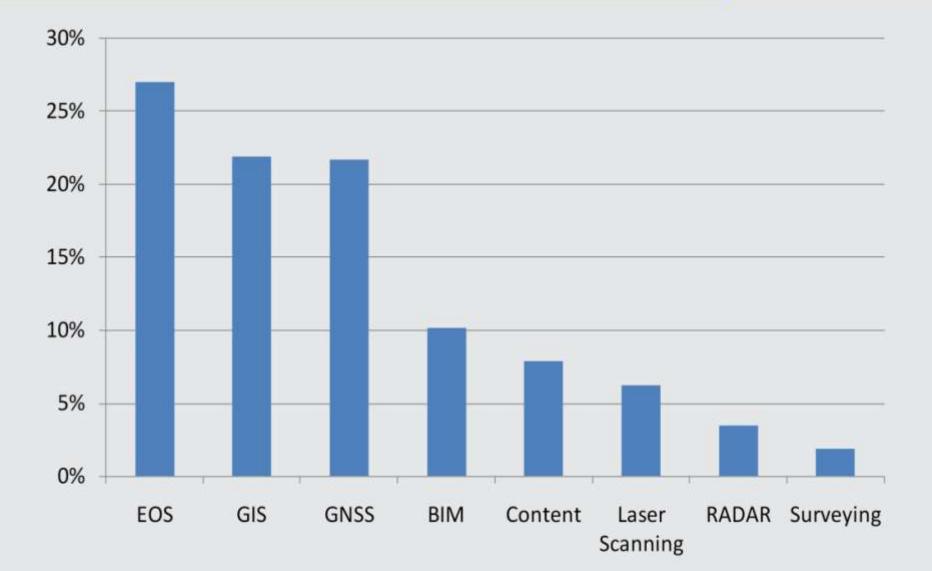
# **INDUSTRY DIRECTION**



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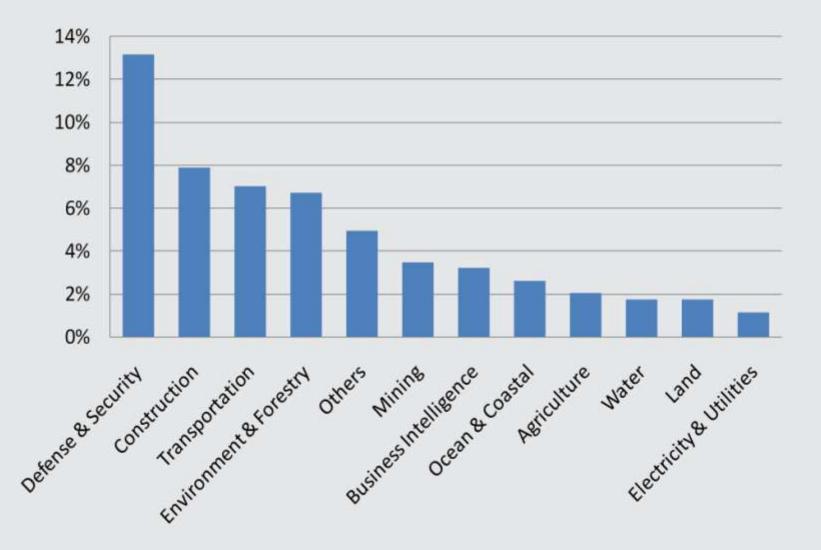
### TECHNOLOGY FOOTPRINT OF GEOSPATIAL INDUSTRY



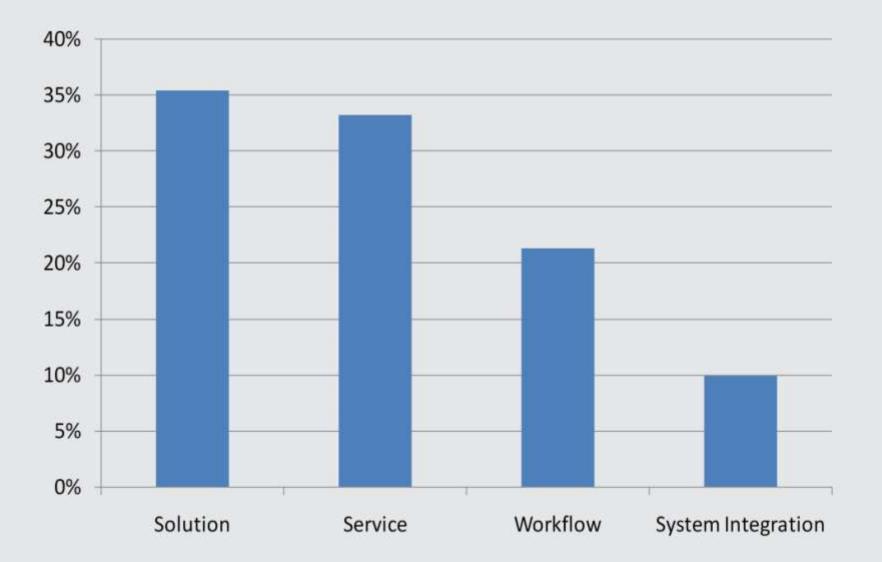


## INDUSTRY WISE ADOPTION OF GEOSPATIAL TECHNOLOGY



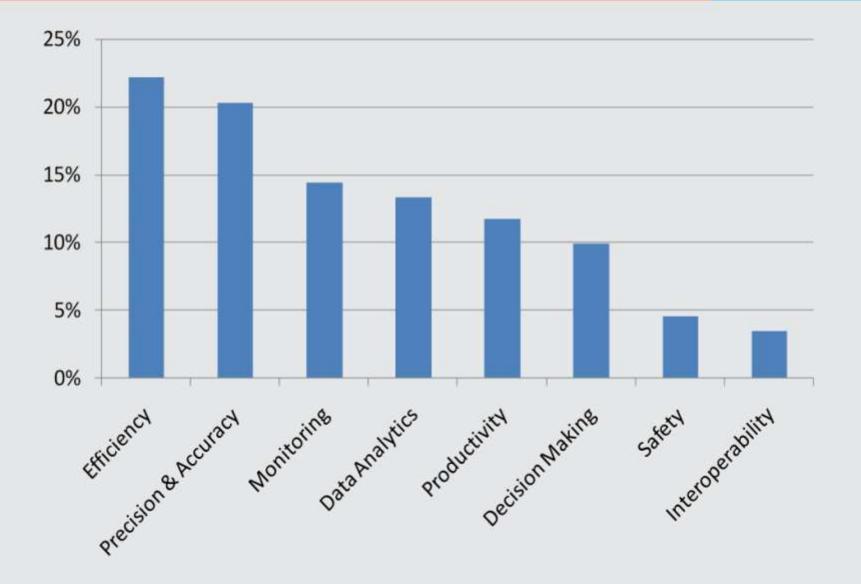


# GEOSPATIAL TECHNOLOGY INTEGRATION AND CONVERGENCE



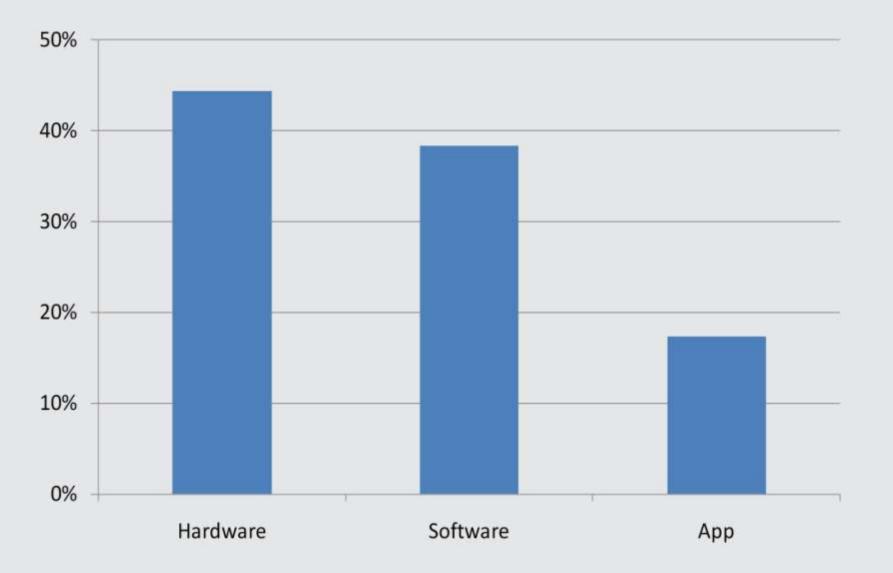
### VALUE AND BENEFITS OF GEOSPATIAL TECHNOLOGIES





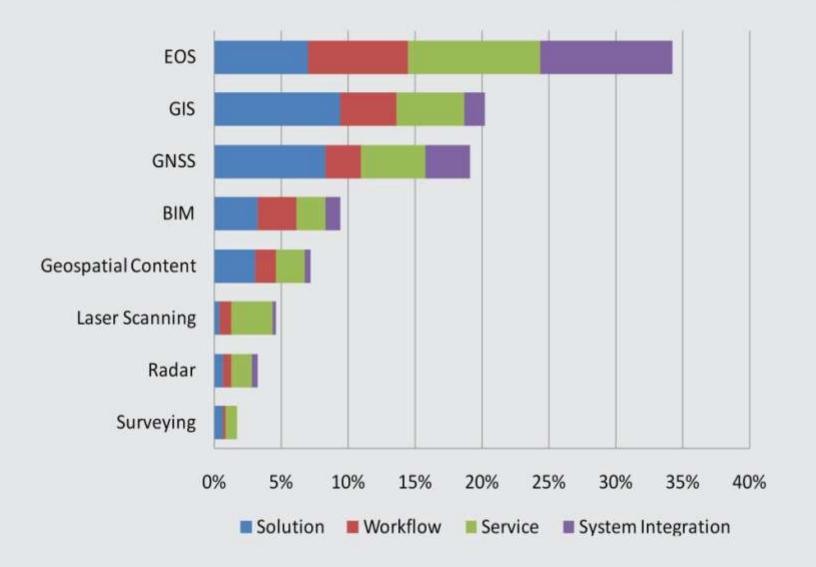
### PRODUCT TRENDS





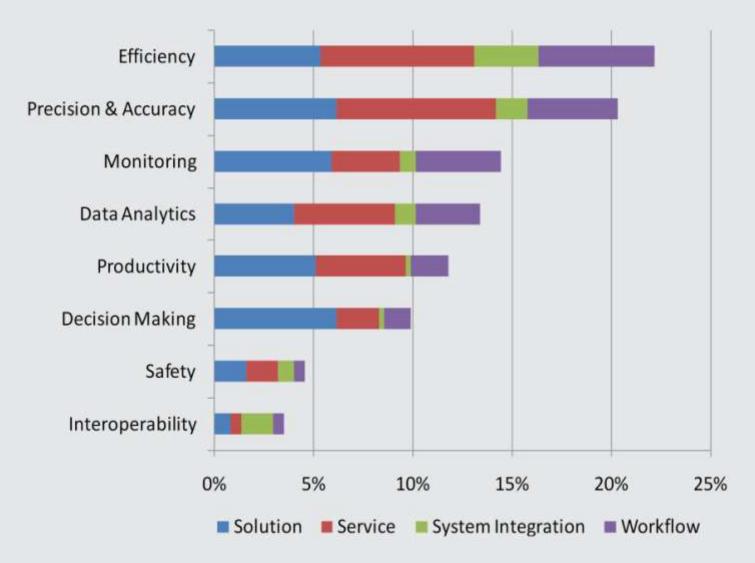
### TECHNOLOGY WISE INTEGRATION AND CONVERGENCE





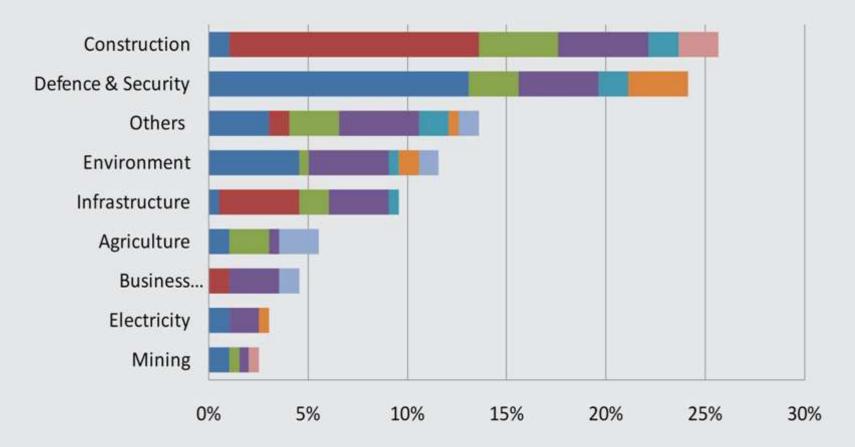
### CONVERGENCE LEADING TO BENEFITS





### INDUSTRY WISE ADOPTION OF GEOSPATIAL TECHNOLOGIES

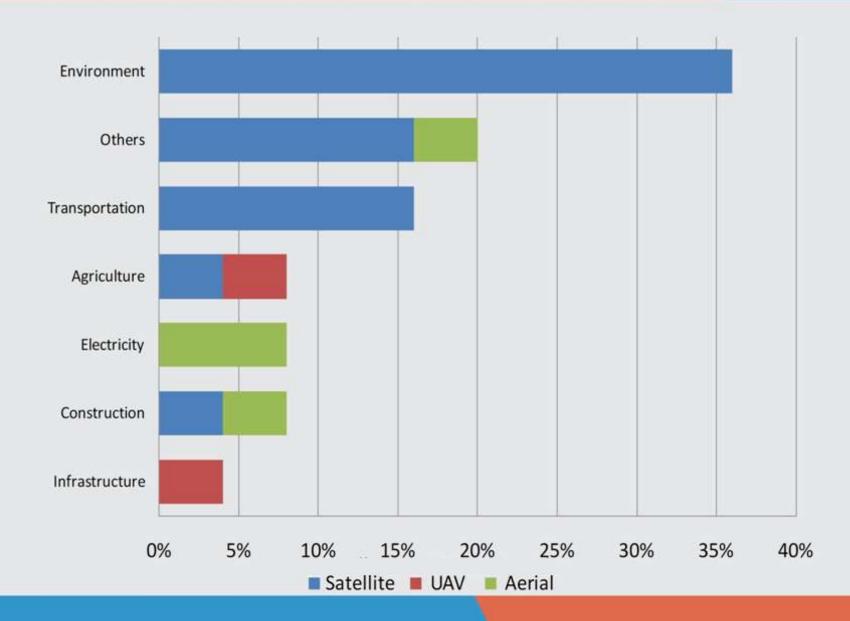




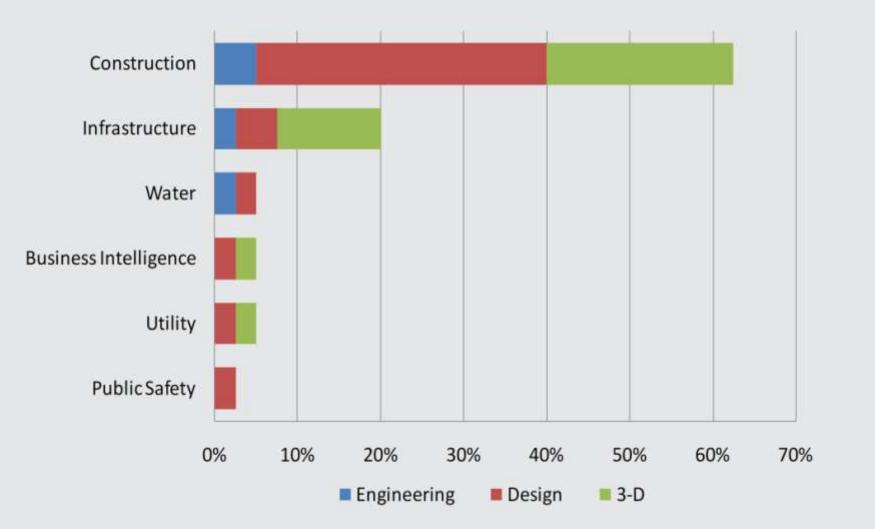
- EOS (Satellite, UAV, Aerial)
- BIM (Eng, Design, 3-D)
- GNSS (Machine Control, Fleet Management, Navigation)

### APPLICATION OF EARTH OBSERVATION SYSTEMS



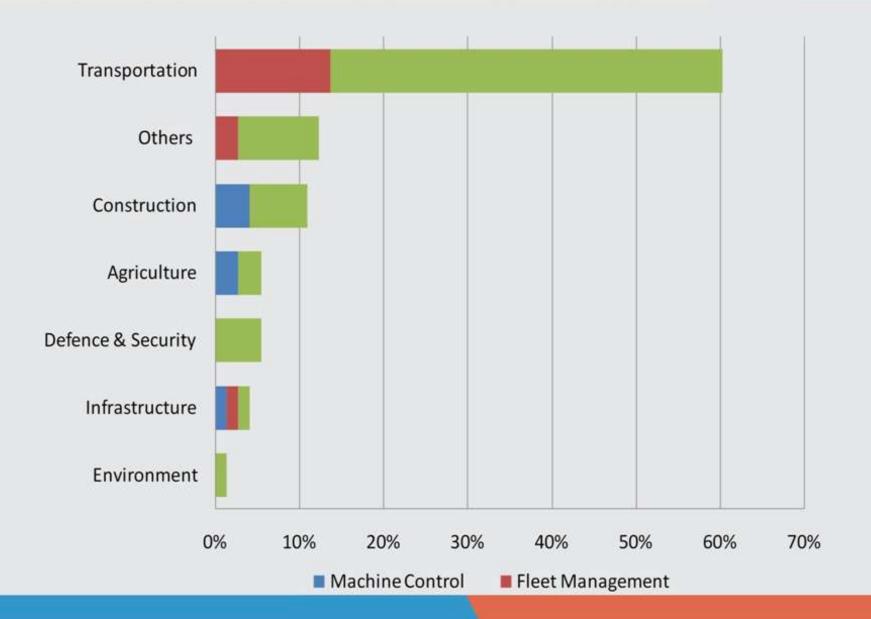


### APPLICATION OF BUILDING INFORMATION MODELING



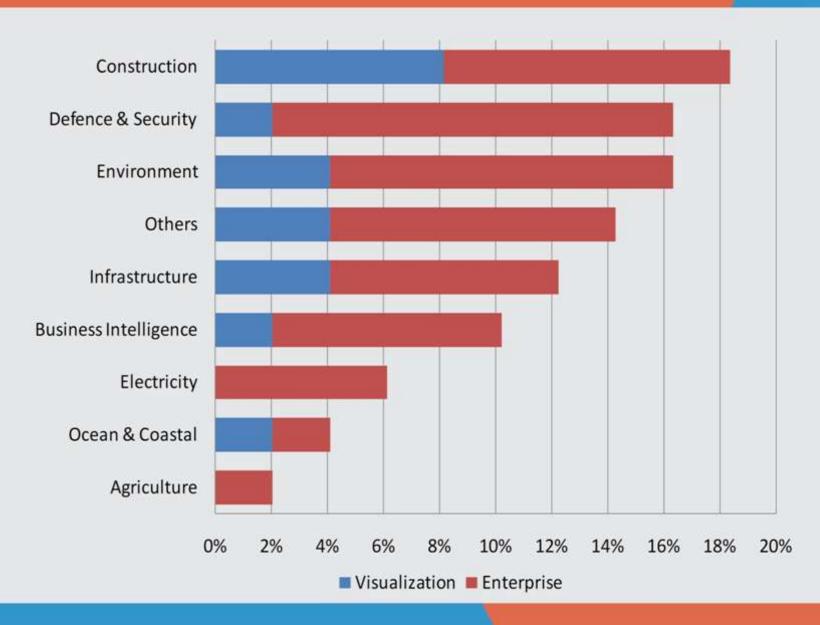
### APPLICATION OF GNSS





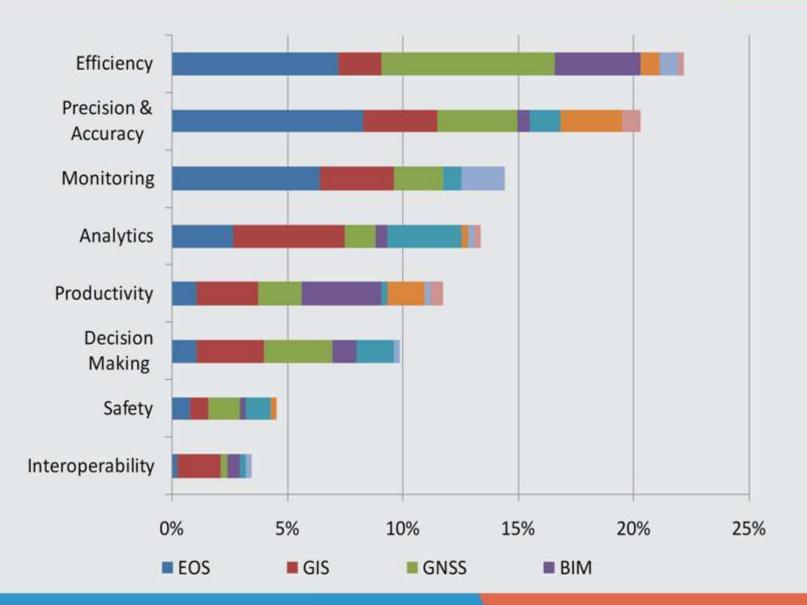
### APPLICATION OF GIS





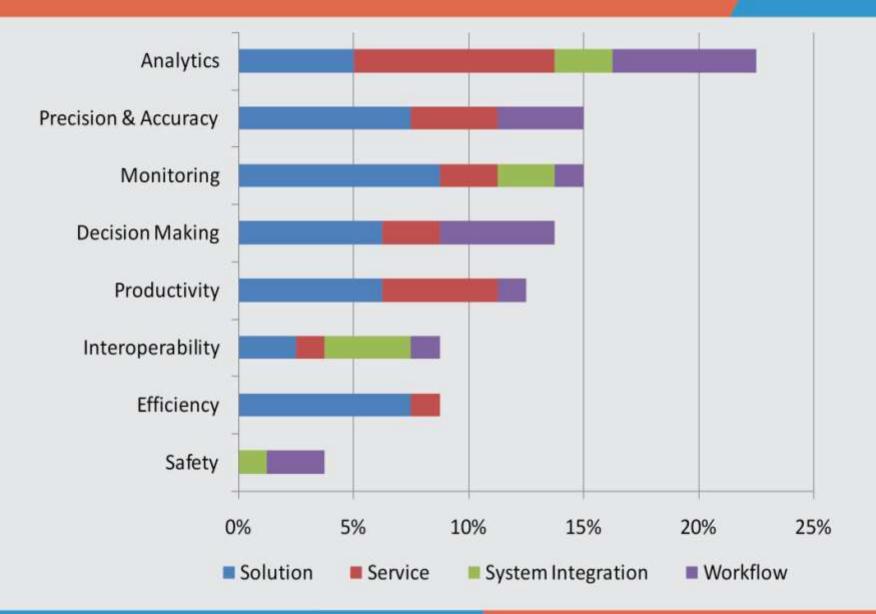
### TECHNOLOGY BENEFITS





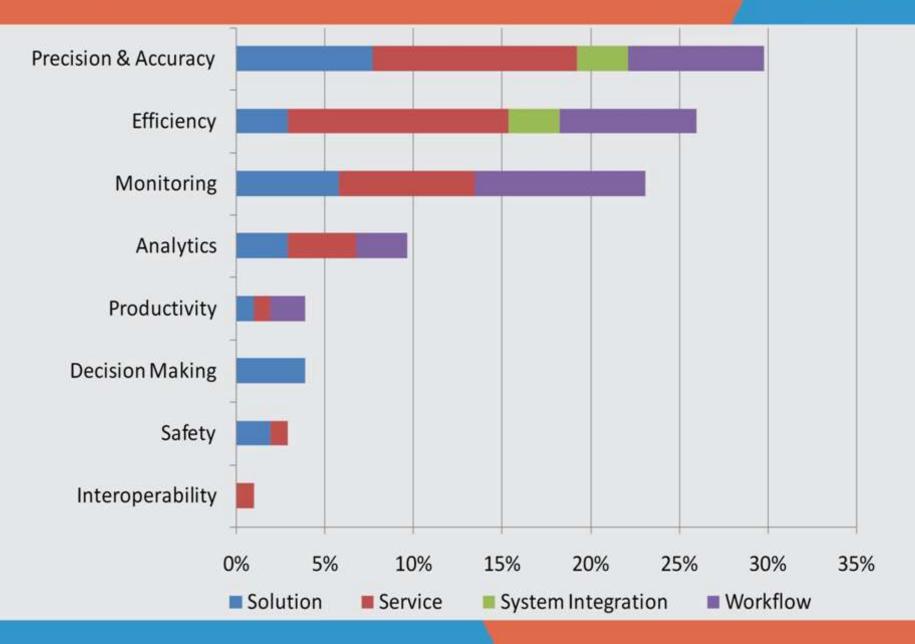
### BENEFITS OF GIS TECHNOLOGY





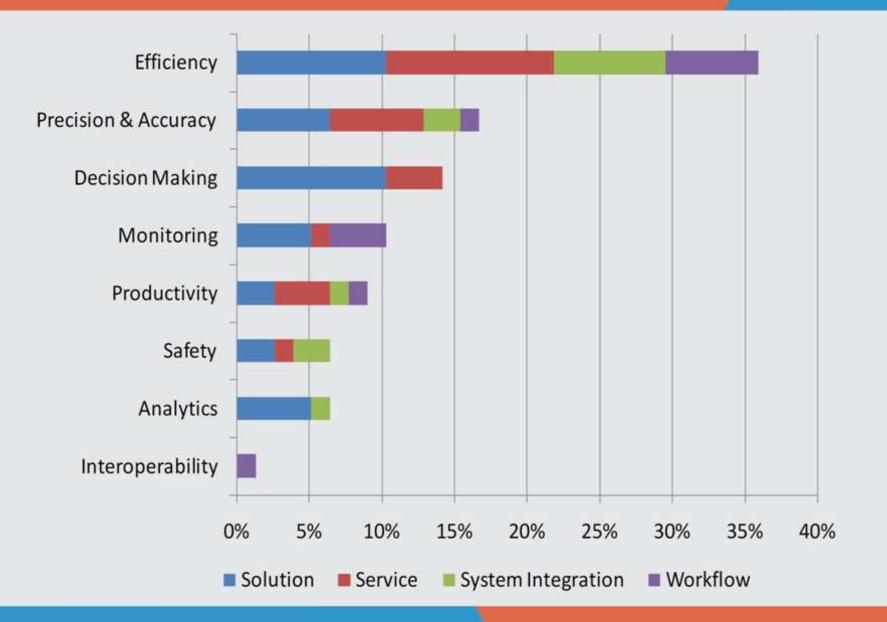
### BENEFITS OF EARTH OBSERVATION SYSTEM





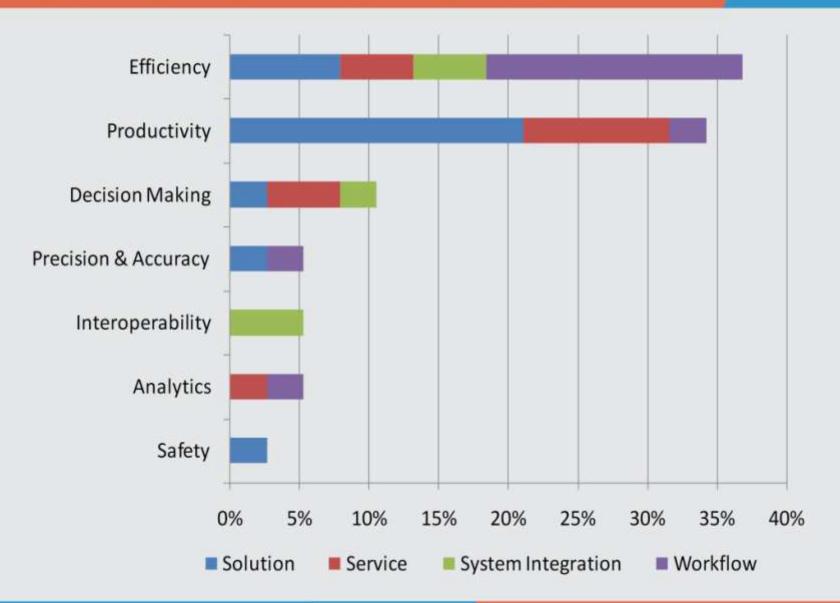
### BENEFITS OF GNSS





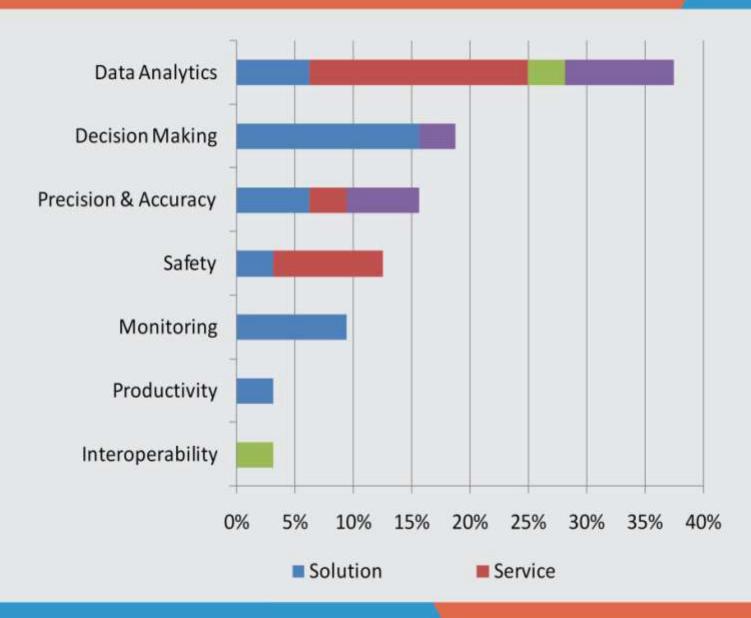
### BENEFITS OF BUILDING INFORMATION MODELING





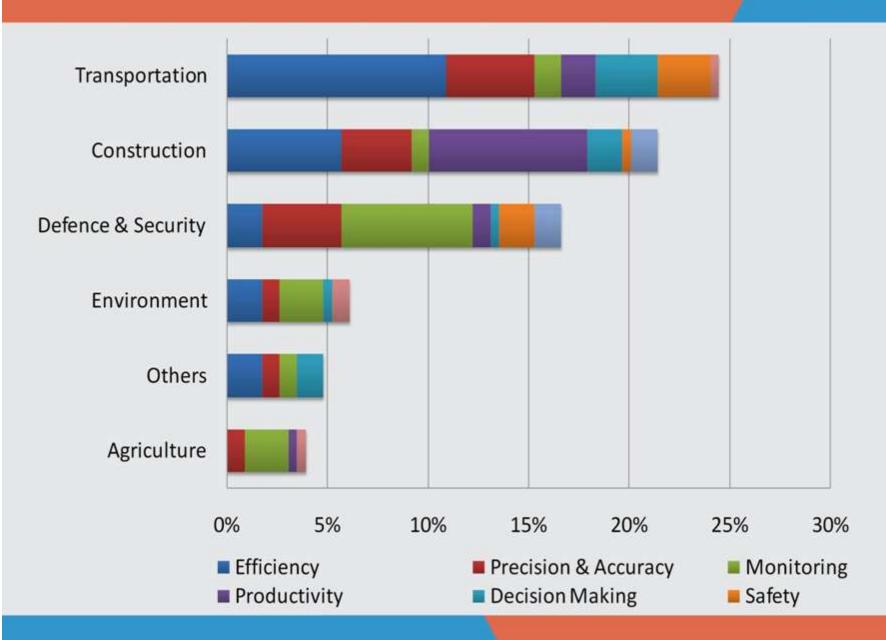
### GEOSPATIAL CONTENT





### BENEFITS OF INDUSTRIES





### BENEFITS OF CONVERGENCE



