Buzz words and business

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WELCOME
WE LIVE

In a Complex . . .

. . . and Interconnected World

Constantly Changing . . .
The Pace of Change Is Accelerating
Creating Many Challenges

- Drought
- Mass Migration
- Loss of Biodiversity
- Ocean Acidification
- Deforestation
- Population
- Climate Change
- Pollution
- Food
- Water
- Political Polarization
- Urbanization
- Energy

Evidence
- Social Conflict
- Decision making
- Impact
- Human understanding
Digital Transformation
Smart Cities
Artificial Intelligence
Machine Learning
Big Data
Internet of Things
Location intelligence
Geo...
Geospatial
Asset management
Digital geography
What Is Geo/GIS Today?
A System for Managing, Analyzing, and Applying Geographic Information

**Integration**
Leveraging Location . . . and Technology

**Communication**
Maps and Visualization

**Analytics**
Geographic Sciences . . . and Modeling

. . . and Solving Problems Holistically

A Platform for Organizations . . .

. . . and Society
Geo/GIS Is Advancing Rapidly
Integrating and Leveraging Many Innovations

Web GIS
Easier, Open, and Accessible

Expanding the Power of GIS

THE SCIENCE OF WHERE

Data
Computing
GIS Innovation
Geo/GIS Is Advancing Rapidly
Integrating and Leveraging Many Innovations

Remote Sensing
Scientific Measurements
Demographics
Drones
Imagery
Traffic
3D
Imagery
Crowdsourcing
Real-Time
IoT
Full-Motion Video
Lidar
Mobile
Big Data
Cloud
Services
Containerization
Virtualization
Fast
Distributed Computing
Microservices
Networks

Computing

GIS Innovation

Data

Easier, Open, and Accessible

Expanding the Power of GIS
Geo/GIS Is Advancing Rapidly

Integrating and Leveraging Many Innovations

- Web Services
- Cloud
- Big Data
- SaaS
- Faster Microservices
- Containerization
- Machine Learning / AI
- Virtualization
- Networks
- Distributed Computing
- Microservices
- 3D Visualization
- Predictive Modeling
- Analytics
- Distributed Architecture
- Geospatial AI
- Data Exploration
- Scripting
- Apps
- Smart Mapping
- Content
- Imagery
- Imagery
- IoT
- Real-Time
- Full-Motion Video
- Lidar
- 3D
- Crowdsourcing
- Traffic
- Weather
- Drones
- Imagery
- Scientific Measurements
- Demographics
- Remote Sensing

Easier, Open, and Accessible

Expanding the Power of GIS
Geo/GIS Is Advancing Rapidly
Integrating and Leveraging Many Innovations
Geospatial in the Oil Industry?

Already a key technology component
A quote
But who said what first?

Clive Humby
Meglena Kuneva
Peter Sondergaard
Piero Scaruffi
Qi Lu
...

‘Data is the new oil’
Let’s take a look

Keep an eye out for commonalities
Let’s take a look

Keep an eye out for commonalities

Investment
Supply chain
Workers

Law
Workers
Education
Skills
Permits
Committees
Drills
Barrels
Flow
Profit
Pipes
Workers
Awareness

Customers

Trusted Brands
Let's take a look

Keep an eye out for commonalities

Law
Permits
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Profit

Investment
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Customers
Trusted Brands
Awareness

Drills
Pipes
Workers
Let’s take a look
Keep an eye out for commonalities

**Governance**
- Law
- Permits
- Committees

**Technology**
- Drills
- Pipes
- Workers

**Resources**
- Workers
- Education
- Skills

**Marketing**
- Customers
- Trusted Brands
- Awareness

**Data**
- Flow
- Barrels
- Profit

**Finance**
- Investment
- Supply chain
- Workers
Now moving to geospatial
To make it successful

- Governance
- Resources
- Finance
- Marketing
- Technology
- Data
The whole Supply Chain
All about the end product
National Geospatial comes alive through apps

Helping Everyone do Their Work Better

Individuals

Teams

Departments

Organizations

System of Systems

Sharing Knowledge

Collaboration

Leveraging Web Services

Improving Productivity and Efficiency
A Federated GIS Platform

- Government Administration
- Transport
- Water
- Telecommunications
- Public Safety
- Utilities
- Health
- Pipeline
- Natural Resources
Proven Benefits of Geography Applied to Government Problems

- Increased Revenue
- Improved Access to Government
- Increased Productivity
- Better Managed Resources
- Time Savings
- Improved Accuracy
- Increased Efficiency
- Cost Avoidance
- Increased Communication & Collaboration
- Better Decision Making
- Reduced Costs
- Aid in Budgeting
- Automated Workflows
Five Core GIS Enablers for Smart Cities

- Planning and Design
- System of Engagement
- Community Engagement
- Real-time GIS
- Analytics

Smart Cities
Web GIS Enables Community Engagement
Organizing and Managing Community Interactions

Providing Citizens Information . . .
. . . And Leaders Input

Citizen Communication
Citizen Surveys (Crowdsourcing)
Status Reporting
Open Data
Storytelling
Demographic Information

Community GIS Hub
Policy Initiative Based
Every City wants to be...

- Sustainable
- Transparent
- Resilient
- Healthy
- Safe
- Prosperous
- Livable
- Collaborative
- Innovative
Aspirations get translated into actionable, real-world Initiatives

Aspirations

Safe  Well-Run  Livable  Healthy  Prosperous  Sustainable

Initiatives

Implement Performance Management
Reduce Traffic Congestion
Create More Affordable Housing
Reduce Homelessness
Create Job Availability

Increase Recreation Opportunities
Improve Water Conservation
Make Parking Easier

Improve Emergency Response Times
Use Less Energy
Encourage Startups

Improve Earthquake Preparedness
Initiatives Cross Departments

VisionZero

Transportation
EMS
Public Safety
Health
Fire
IT
Land Management
City Manager
Economic Development
Community Development
Social Services
Council
Utilities
Infrastructure
City of Los Angeles

40+ departments running on an array of disconnected technology platforms

500+ datasets—and growing—into a centralized business intelligence system

202 Los Angeles-based startups generating more than $3 billion in yearly capital

3.8M People and counting in the Greater Los Angeles area

Initiatives

- Encourage Startups
- Reduces Traffic Congestion
- Make Parking Easier
- Create More Affordable Housing
- Implement Performance Management
- Reduce Homelessness
- Increase Recreation Opportunities
- Improve Water Conservation
- Create Job Availability
- Improve Emergency Response Times
- Improve Earthquake Preparedness
- Use Less Energy

go.esri.com/Smart-LA
Achieving over 1 Billion USD in savings benefits for the Dubai Government

SMART DUBAI 2014 - 2017

**ECONOMIC IMPACT**

1.2B USD SAVED BY DUBAI GOVT THROUGH SMART SERVICES 2003 - 2015

7.4M HARD COST SAVINGS

4.3M SOFT COST SAVINGS

5.6 DOLLARS SAVED BY THE GOVERNMENT

FOR EVERY 1 DOLLAR SPENT BY SDG 2003 - 2015
Smart Dubai

3D dashboard: public and community engagement

Big data analytics: transportation and telco data

Event planning and management

City planning

Public engagement analytics
Leveraging the Power of Geography... to Make Better Decisions

A Framework and Process

Geographic Knowledge

- Data Management & Integration
- Visualization & Mapping
- Analysis & Modeling
- Planning & Design
- Decision-Making

Action

Measuring

Analyzing

Understanding

Collaborating

Leveraging the Power of Geography... to Make Better Decisions
Business is there

And the problems are not new