



Agenda

- Esri
- A Little History
- Changing Industry
- A Little GIS Tech
- Data and Apps
- Disruption

Surveying and GIS

Disruption and the Future

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Esri—Serving Our Users

Advancing GIS & The Science of Where

Strong and Growing

Engineering and Science Focus

Promoting Spatial Literacy
Supporting Employees

Education
Conservation

... Working Together to Make a Difference



1086

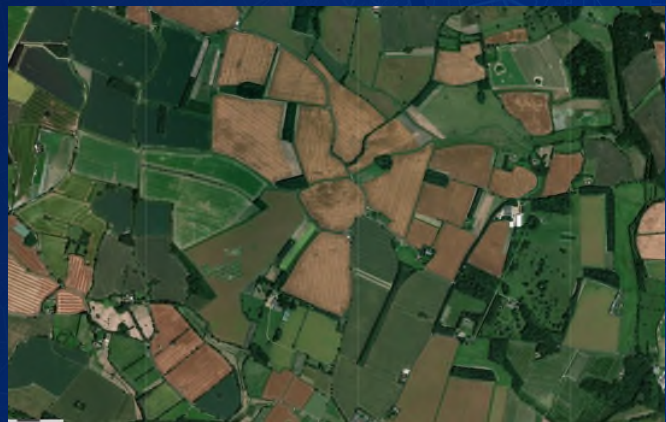


1509 - 1547



Year Wool

1500	- 14.0
1550	- 24.9
1551	- 49.3
1595	- 60.7
1607	- 62.4
1620	- 70.6



*The meadowlands & garden plots of
which were first layd out 1623*

the north side

the south side

Peter Brown

John Goodman

Mr Brewster

first way

John Billington

Mr Isaac Allerton

Francis Cooke

Edward Winslow

the street

*The meadowlands & garden plots of [those] which came first layd out 1620.

The north side

The south side

Peter Brown

John Goodman

Mr W^m Brewster

high way

John Billington

Mr Isaac Allerton

Francis Cooke

Edward Winslow

the street

1623







1776



1803



1812



1858



§ 57 Pa. 161; 1868 Pa. LEXIS 81. February 6, 1868

Pennsylvania Supreme Court Watson v Muirhead

1868

1871



The Real Estate Title Insurance Company of Philadelphia



1876

<https://www.charlesjones.com/blog/the-founder-of-the-title-insurance-industry-joshua-h-morris/>



1945 - 1954

Wolf Ladejinsky



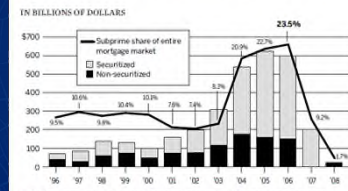
2021

- Global Markets
- Complex Financial Systems
- Complex Transactions
- Growing Regulatory Issues
- Demands for More Data
- Mortgage Crisis Recovery
- FinTech
- Artificial Intelligence
- AVMs
- eNotary
- Electronic Real Estate Transfers
-



Subprime Mortgage Originations

In 2006, \$600 billion of subprime loans were originated, most of which were securitized. That year, subprime lending accounted for 23.5% of all mortgage originations.



NSW land titles registry leased for \$2.6 billion to Hastings Funds Management, First State Super

By [Esther Han](#)

Updated April 13, 2017 –
11:55am, first published April
12, 2017 – 12:01pm



The Berejiklian government has announced it will lease the state's 150-year-old land titles registry to Hastings Funds Management and First State Super, after accepting their bid of \$2.6 billion.

Premier Gladys Berejiklian, flanked by Treasurer Dominic Perrottet, said the 35-year concession of

Landgate sale nets WA Government more than \$1.4 billion to help pay for child sex abuse redress

By Rhiannon Shine

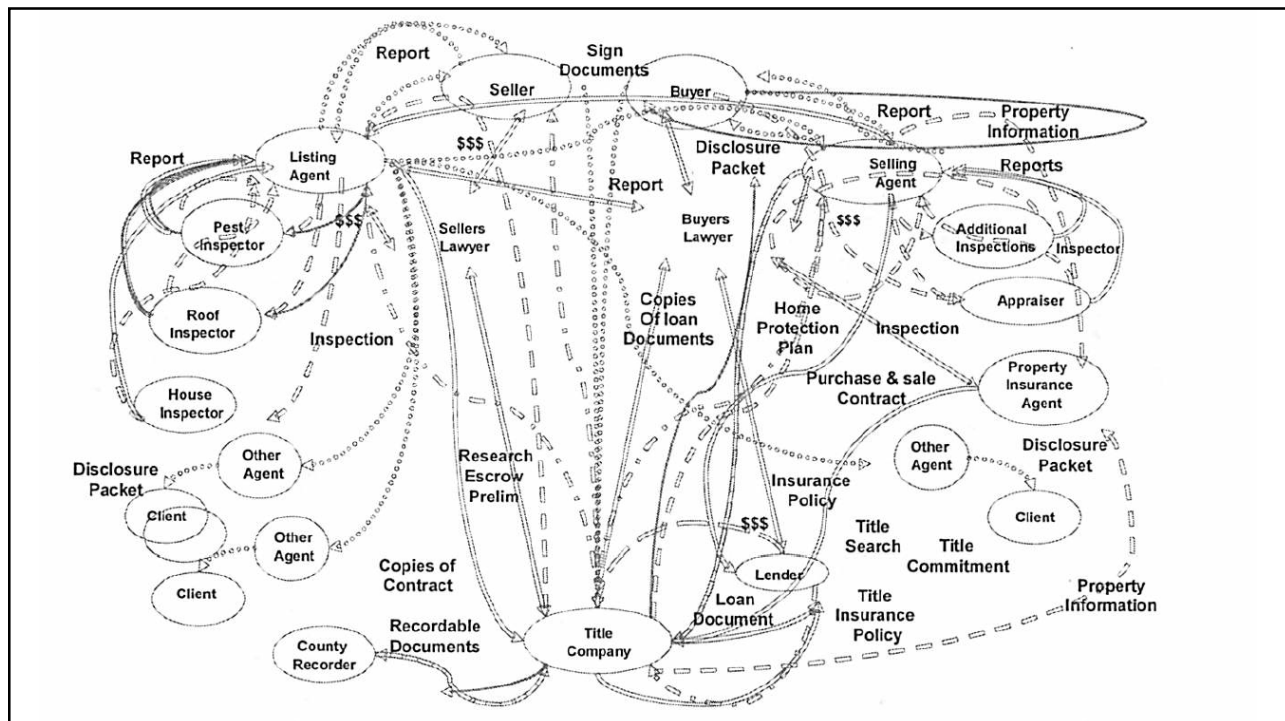
Posted 10 Sep 2019, 4:46am



[Home](#)
[Registry Solutions](#)
[Commercial Solutions](#)
[Collateral Management Solutions](#)

Teranet Ontario

Teranet is the exclusive provider of Ontario's online property search and registration. We developed, own and operate the Ontario Electronic Land Registration System - one of the most advanced, secure and sophisticated land registration systems in the world. Teranet also provides online access to Ontario's Writs System.



Fintech Investments Mortgage Politics & Money

NYSE parent company ICE acquires MERS

ICE buys remaining stake in mortgage registry

Intercontinental Exchange Completes Acquisition of Simplifile LC

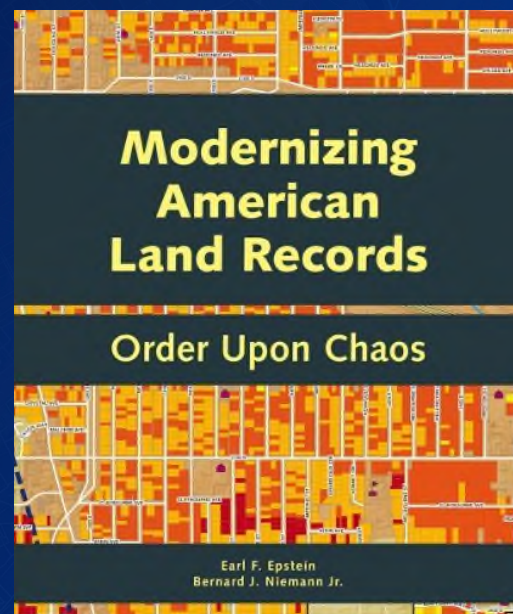
June 12, 2019 08:30 AM Eastern Daylight Time

ATLANTA & NEW YORK—(BUSINESS WIRE)—Intercontinental Exchange, Inc. (NYSE:ICE), a leading operator of global exchanges and clearing houses and provider of data and listings services, today announced it has completed its acquisition of Simplifile, LC. On May 1, 2019 ICE announced that it would acquire Simplifile for \$335 million. The acquisition will not be material to ICE's 2019 earnings or have an impact on capital return plans.

"ICE's track record of bringing innovation and efficiency to markets will be a valuable asset as we continue to work with recorders, title and settlement agents, and lenders to build a slate of products that make it simpler to record mortgage documents"

"The U.S. residential mortgage market is evolving from paper-based transactions to digital solutions," said Chris McEntee, President of ICE Mortgage Services. "Simplifile's connectivity to nearly 2,000 public recording entities, representing over 80 percent of the U.S. population, is a key part of the infrastructure needed to further drive digital transformation in the mortgage market. The Simplifile team brings tremendous industry expertise to ICE and we will work together to help those involved in the mortgage value chain - including borrowers, originators, investors and servicers - benefit from more transparency and efficiency in what's been a

Land surveyors have a role
in modernizing
American land records.



What is a GIS?

A System for Managing, Sharing, and Applying Geographic Information

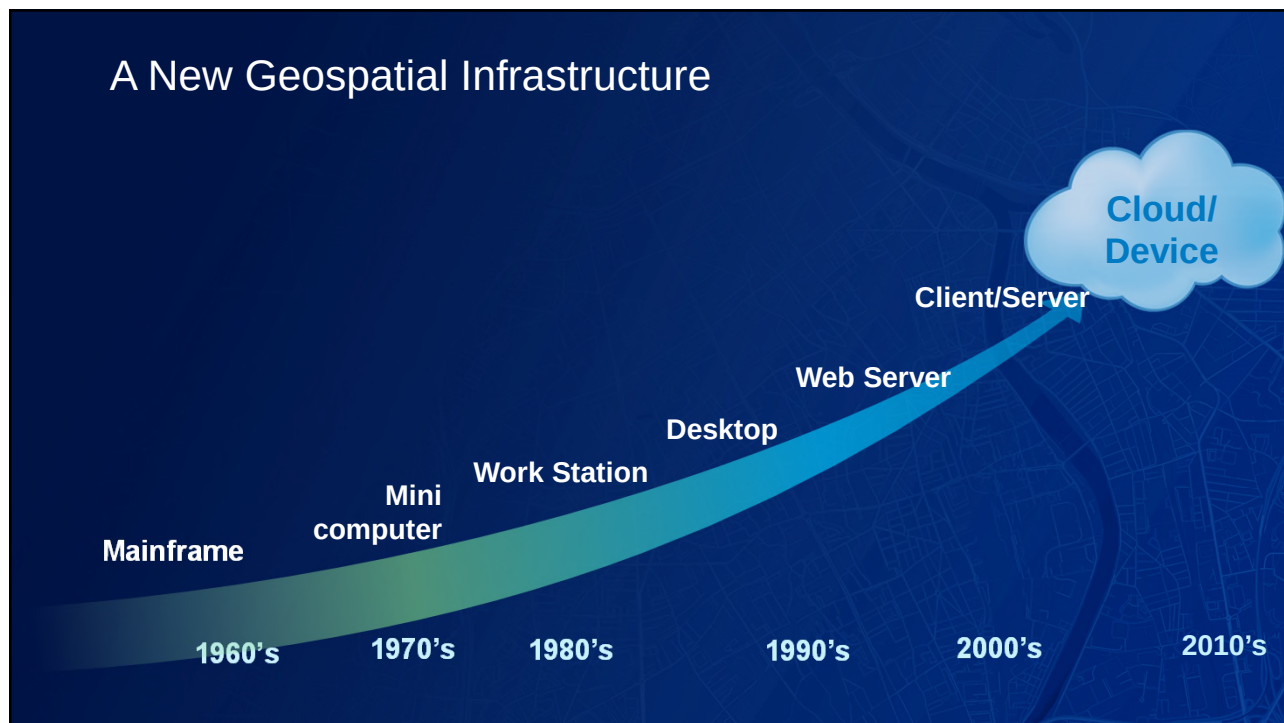
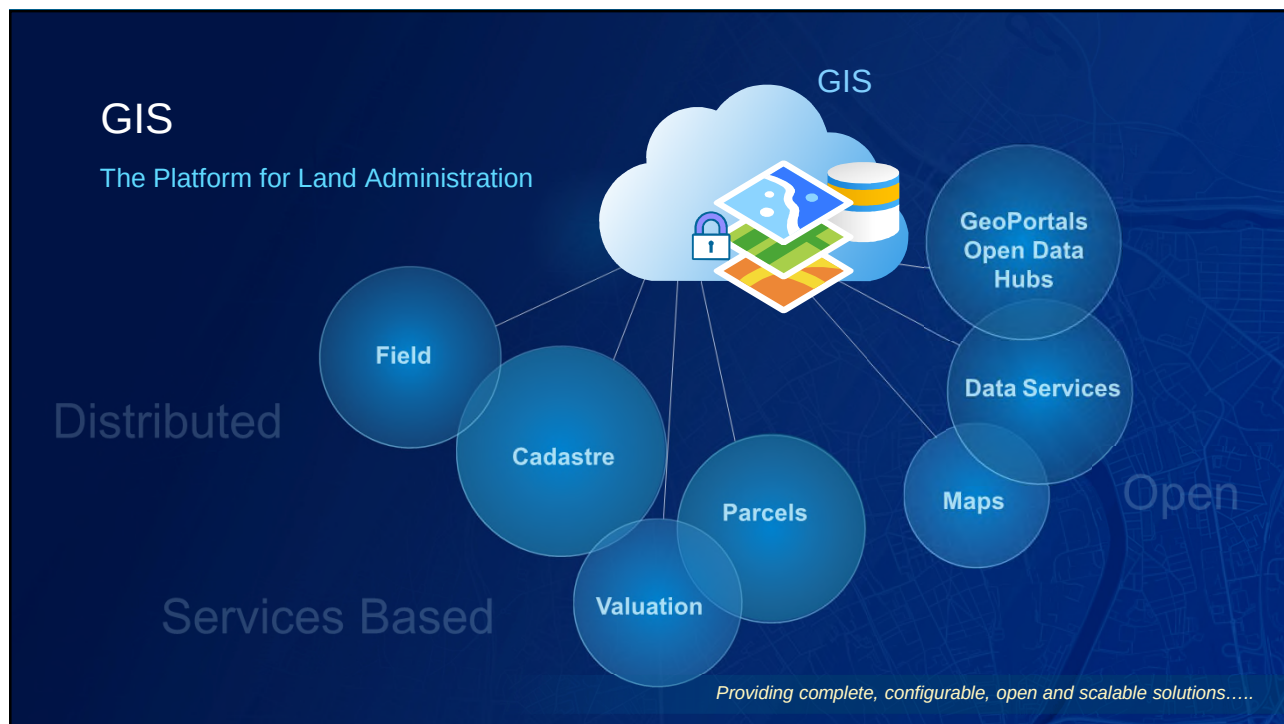


GIS

The Platform for Land Administration

Managing and Analyzing Land Information





Web & GIS is the Integration Platform

Changing how we work, share and communicate....

Evolving with Enabling Technology



Client / Server
Stand-Alone Desktop
Data Models
Static Data
Single Server
Custom Applications
Proprietary Data
2D Features
Spatial Analysis
Digital Cartography

Web Services & Apps
Connected Desktop
Web Maps & Layers
Real-Time
Distributed Computing
Configurable Templates & Apps
Open Data & Shared Services
3D Features
Spatiotemporal & Big Data Analytics
Smart Mapping

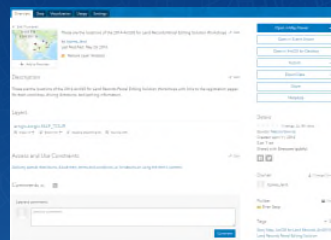
Web Services

Organizes and Securely Sharing Data.....

https://

- Secure
- Standards-based
- Controlled Access via Identity
- Control Who Does What
 - View
 - Query
 - Edit
- Monitor/Track

<http://esriland.maps.arcgis.com/home/item.html?id=5969689b642840e39cf0491669484e0b>

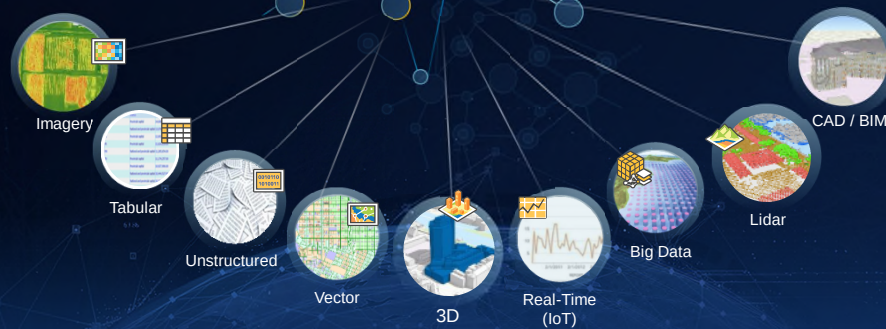


GIS Simplifies Working With All Types of Data

Integrates All Types of Data

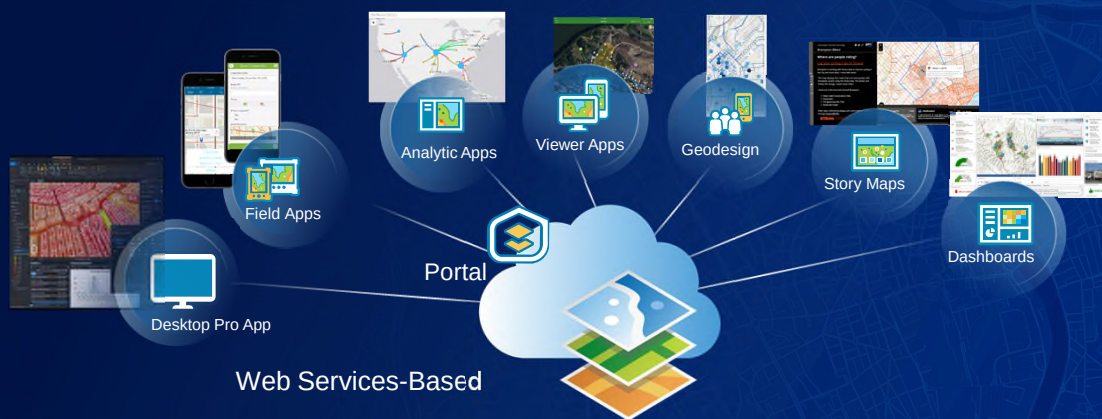
Creating a Common Language

Maps
Scenes
Layers



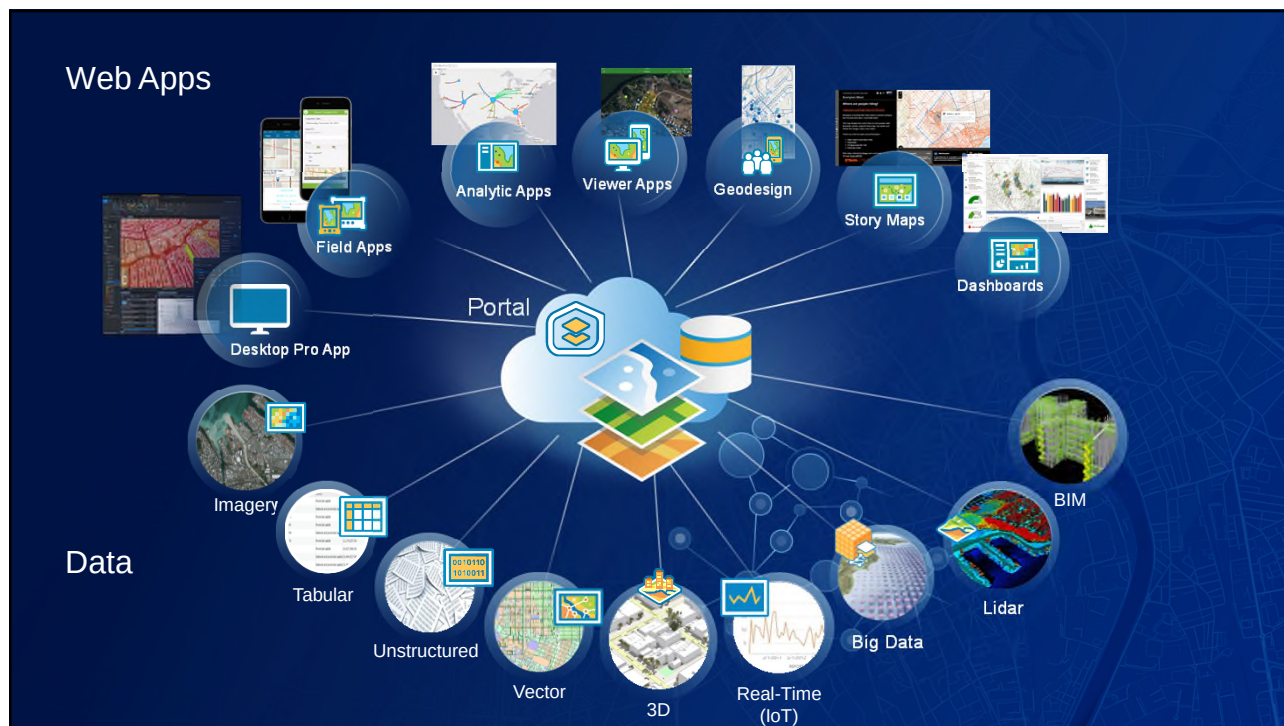
Web Apps

Leveraging the value of your data



Web Services-Based

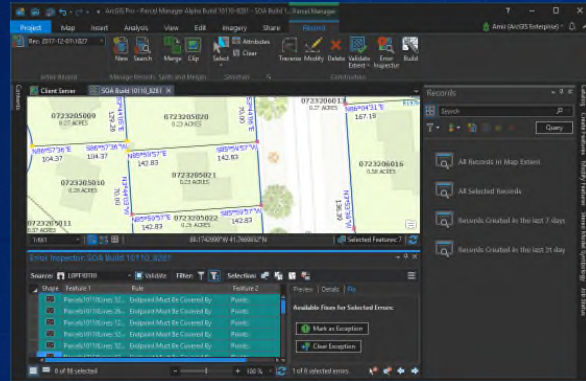
Across Organizations and Beyond



Parcel Management

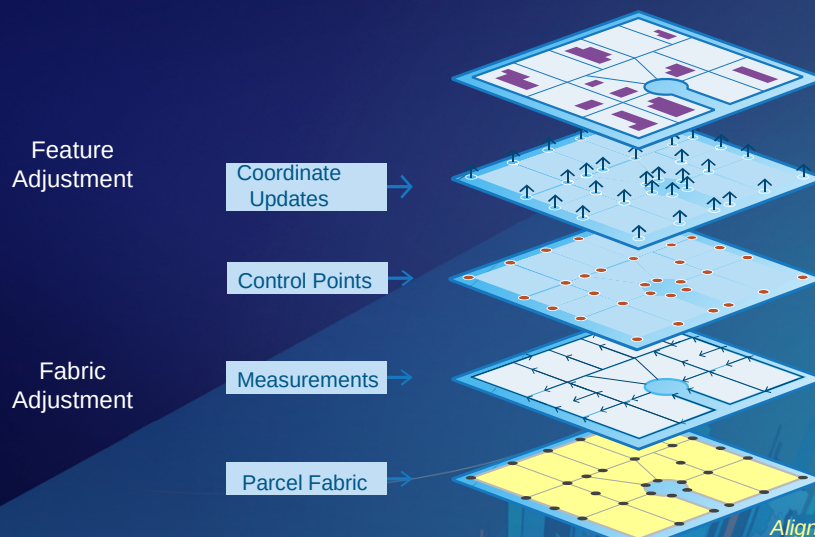
Transformational Parcel Management – Parcel Fabric

- Defined workflows
- Standards-based
- Single source of the truth
- Data sharing
- Multi-user
- Improve accuracy
- Integrate with registry and CAMA



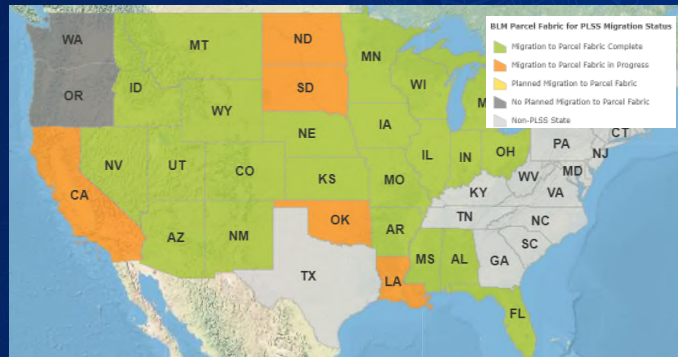
Purpose-Built Tools

Data Integrity, Topology, History



BLM – Bureau of Land Management

- 1993 ALMRS. Estimate: \$240M. Cost \$400M. Custom system. Terminated Jan 1999.
- 1999 NILS. Cost \$27M. Custom on top of COTS. Terminated 2010.
- 2016. COTS! Cost: licenses & services.
- Using LGIM – Local Government Information Model (complies with US FGDC)



BLM Parcel Fabric Migration for PLSS Maintenance Status Map

Province of British Columbia, Canada - LTSA

- ParcelMap BC Project:
 - 944,735 Km²
 - 2.6 M parcels
 - 35,000 control points
- Incremental migration from multiple sources
- CPDM – Canada Parcel Domain Model
- “Create, Validate and Submit” electronic submission process of survey plan dataset
- Customer oriented: Online services



“ Land surveyors are doing their research quicker ... doing it easier, and ... actually getting more information. ”

World's Largest Media Company



- No Journalists
- No Content Producers
- No Photographers

World's Largest Hospitality Company



- No Rooms
- No Receptionists
- No Free Breakfast

World's Largest Transportation Company

The Uber logo, consisting of the word "Uber" in white sans-serif font on a black square background, is positioned on the left side of the slide. The background of the slide is a dark blue gradient with a faint grid pattern and a glowing blue sphere on the right side.

Uber

- No Cars
- No Manufacturing
- No Repair Facilities

Disruption

dis·rup·tion

dis'rəpSH(ə)n/

noun

noun: **disruption**; plural noun: **disruptions**

disturbance or problems that interrupt an event, activity, or process

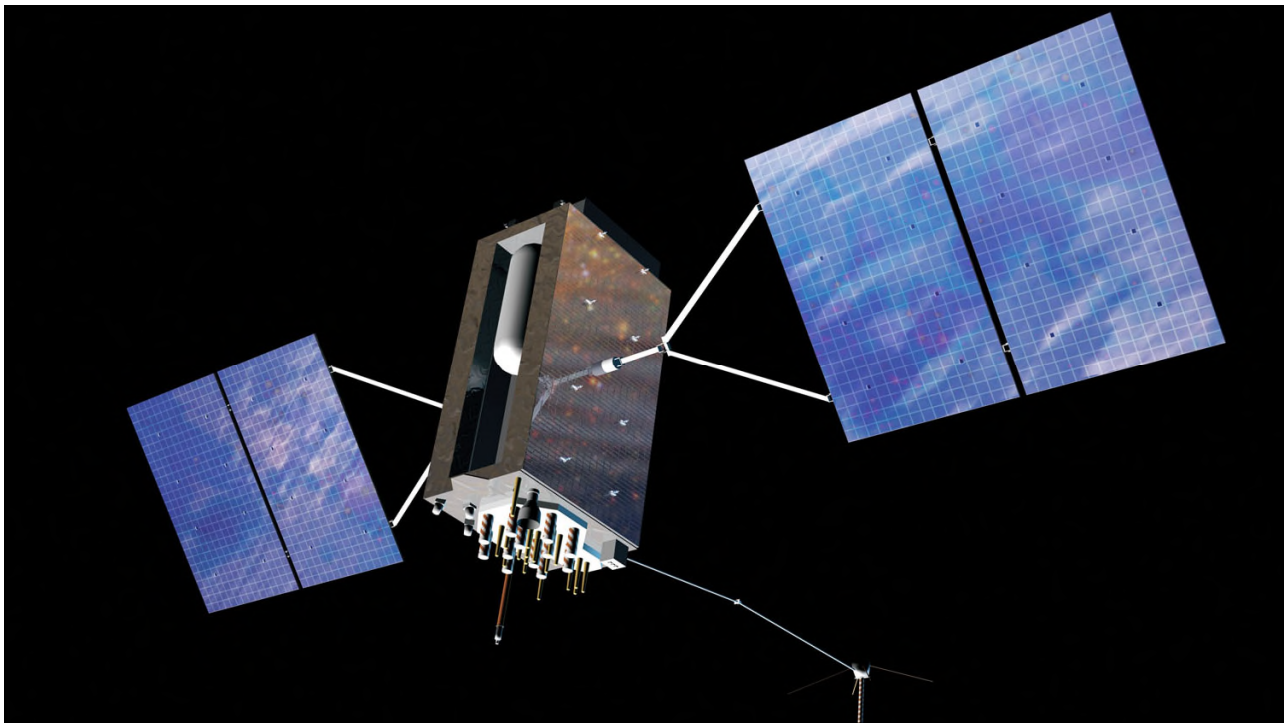
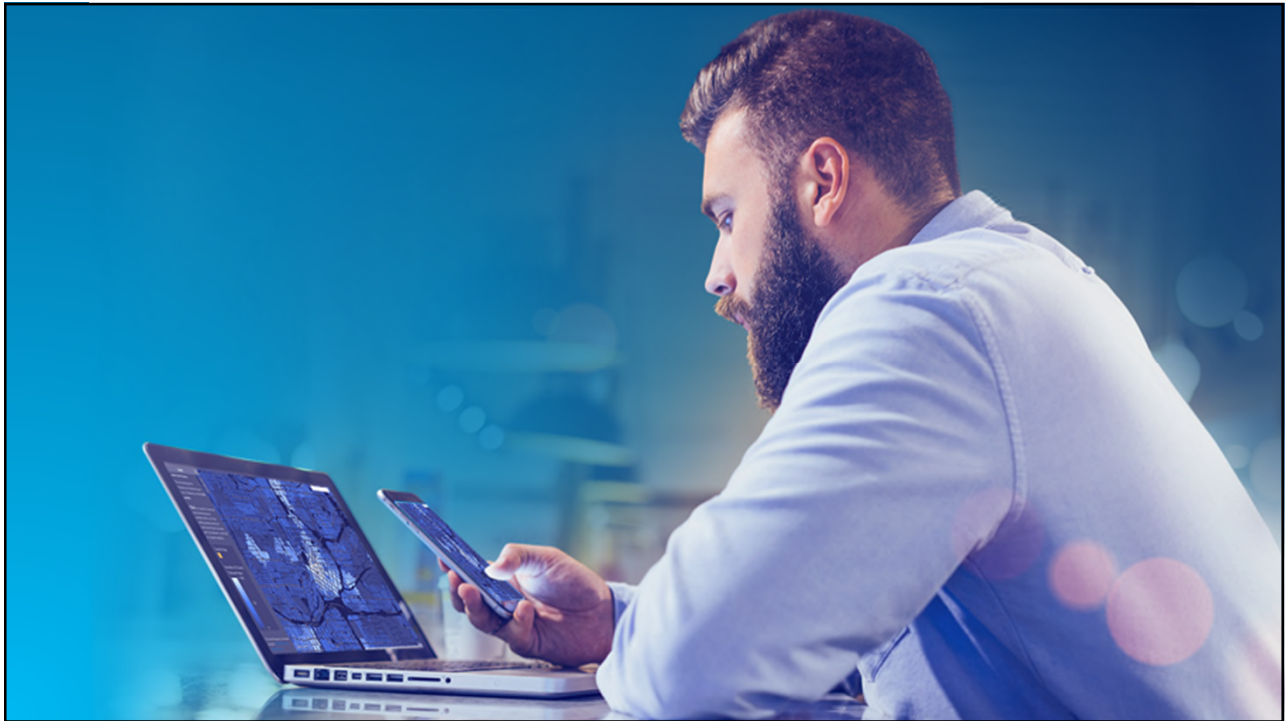
Enabling Technology for This Disruption

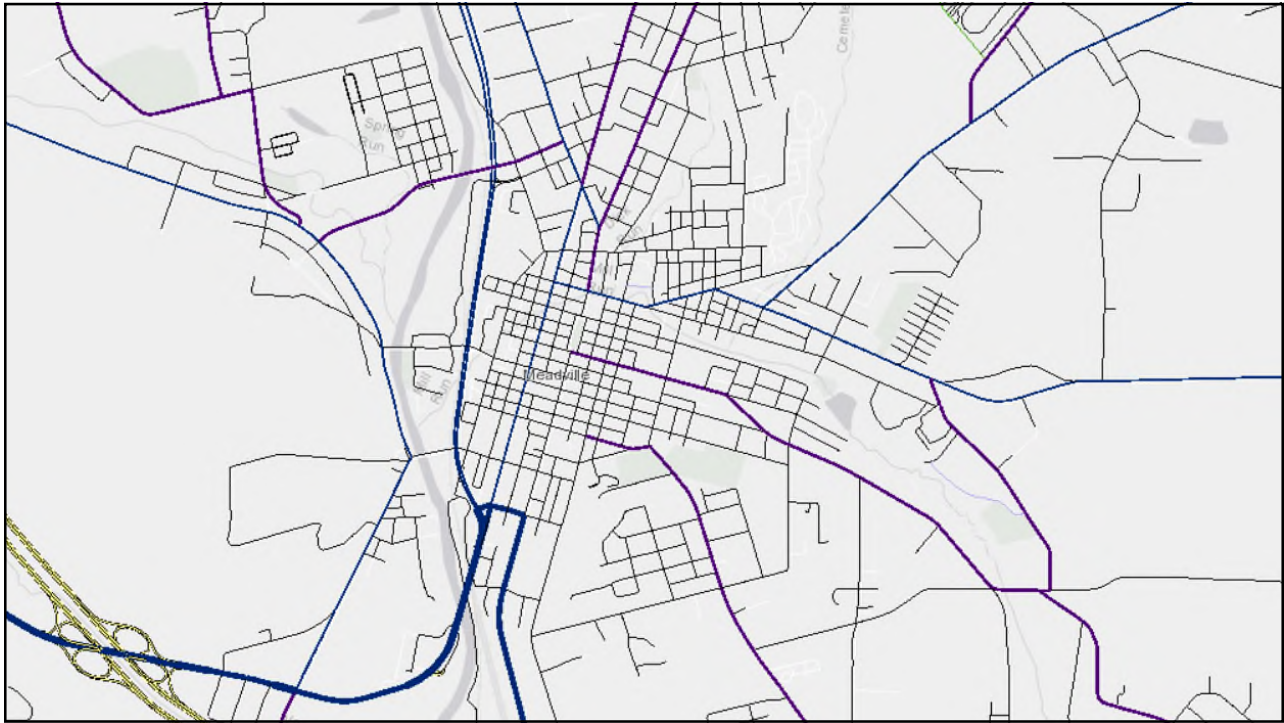
Combining innovations power disruption....

The Uber logo, consisting of the word "Uber" in white, sans-serif font, centered within a black square. The background of the slide features a blue and purple abstract design with a globe-like grid pattern and hexagonal shapes.

Uber



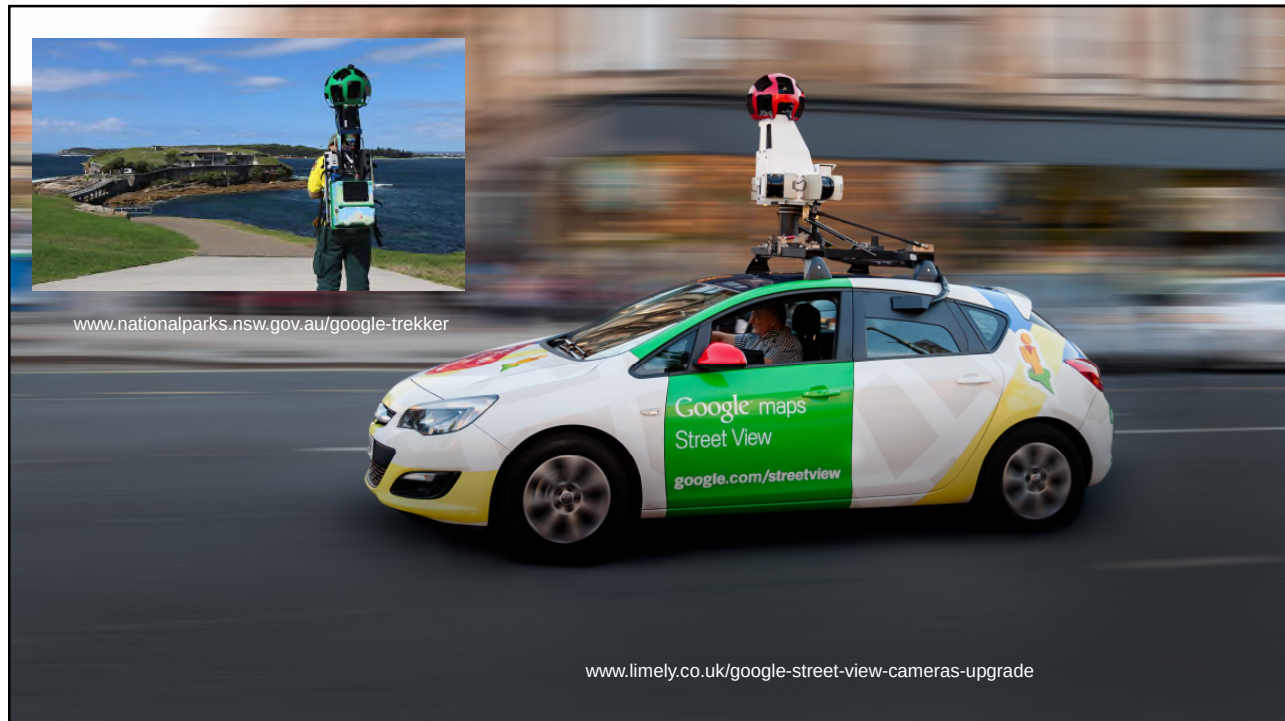




Standards, Security and Identity....

XLSForm	GML	SQL	SLD	SOAP	WMTS	KML	LAS	INSPIRE	Shapefiles
IMDF	WCS	IFC	Web Scene (I3S)	LERC	CSW	WPS	REST	OneGeology	
WFS	WMS	OPeNDAP	JSON	WaterML	netCDF	GeoPackage	CityGML		







WILL ROBOTS TAKE MY JOB?

willrobotstakemyjob.com/

96%

Surveying and Mapping
Technicians

AUTOMATION RISK LEVEL
You are doomed

or 96% probability of automation

Transformation

trans·for·ma·tion

tran(t)sfər'māSH(ə)n/

noun

noun: **transformation**; plural noun: **transformations**

a thorough or dramatic change in form or appearance

GIS Is Disruptive. . . . and Transformational

Integrating and Leveraging Many Innovations



