

Technology Innovations and Trends in Business Intelligence and Spatial Analytics

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What is Business Intelligence

- Software that enables an organization to gain insight into its critical operations through reporting applications and analysis tools
- BI applications may include a variety of components such as tabular reports, spreadsheets, charts, dashboards, and maps

- Finance Manager**
 - Revenue Overview
 - Revenue and Headcount Analysis
 - Cost Management



- Payables Manager**
 - AP Balances
 - AP Holds
 - AP Overdues



- Sales VP**
 - Top deals in Play
 - Sales review
 - Pipeline trend
 - Revenue trend



- Sales Manager**
 - Team performance
 - Quota attainment
 - Pipeline review
 - Demand generation



- Project Manager**
 - Campaign performance
 - Campaign cost



- Grants Manager**
 - Budget vs. Actual
 - Award Cost Details
 - Award Encumbrance Details



- Marketing Analyst**
 - Campaign performance
 - Campaign cost

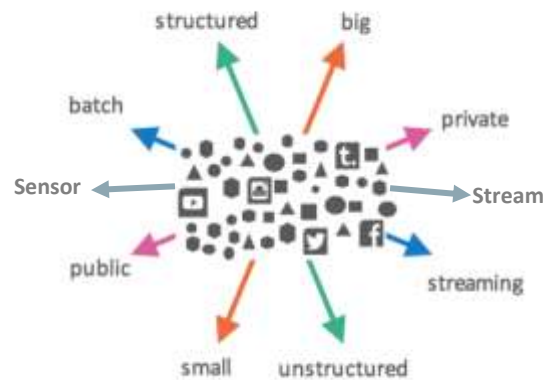


- Service Manager**
 - Open incidents
 - Closed incidents
 - Team performance



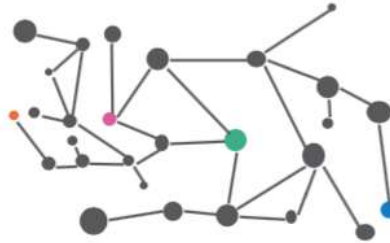
Challenges for Modern BI

Organizations need to Cope with Diverse Data



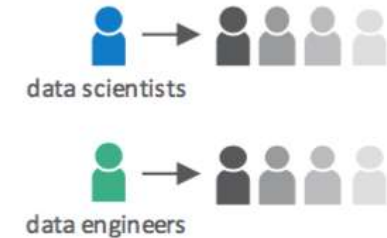
One solution to access all types of data

Emerging Technologies are Fragmented and Complex



Leverage emerging technologies using single unified platform

Specialized Skills in Short Supply



Empower Business users to achieve their goals by making it simple to use

Smart Analytics for Everyone



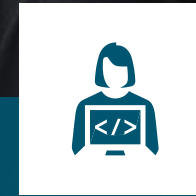
ANALYSTS

- Faster time to insights
- Share, collaborate and maximize community's wisdom



BUSINESS LEADERS

- Easy, timely, proactive business insights
- Empower to go beyond consuming others' findings



DEVELOPERS

- Develop and deploy analytic applications for people to customize and personalize
- Embed analytics in any application context

Liberate All Data From All Sources

CONNECT &
PREPARE

Easy access to a variety of data sources

- Few clicks to setup and use
- Vast number of sources should be supported
- Expanding coverage to enable access to every industry-specific source via native connectors or developer community

SAAS / PAAS

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MARKETING
CLOUD

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FINANCIALS
CLOUD

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DATABASES

ORACLE

TERADATA



SAP Sybase IQ

MySQL



IBM DB2



TERADATA ASTER

BIG DATA NO SQL



mongoDB



splunk



Pivotal



MAPR



OTHERS



Find Hidden Patterns with Smart Data Discovery



Automatic detection of data patterns

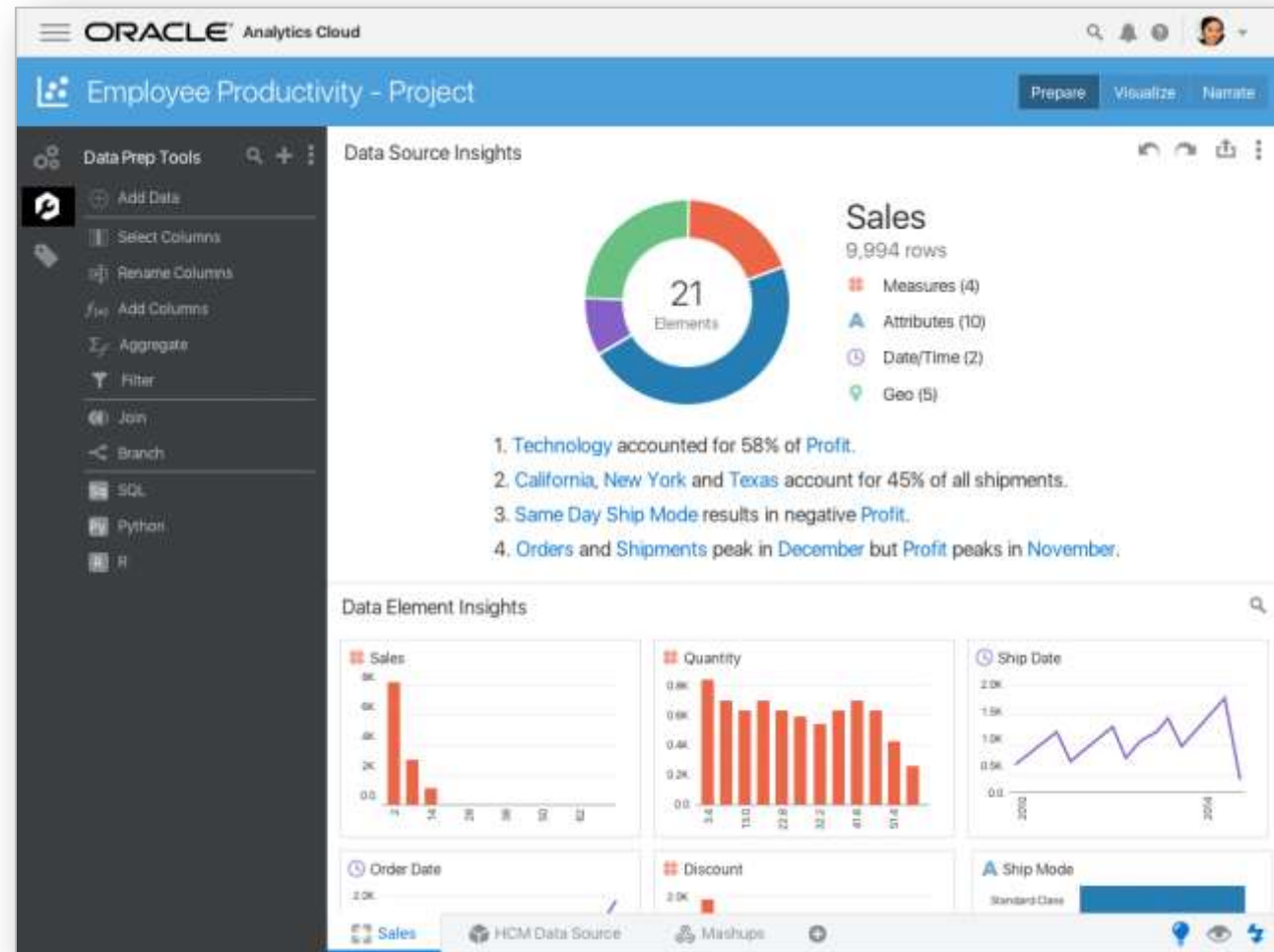
- Guide users towards strongest correlated factors and variances from norm

Auto-blending, intelligent visualizations

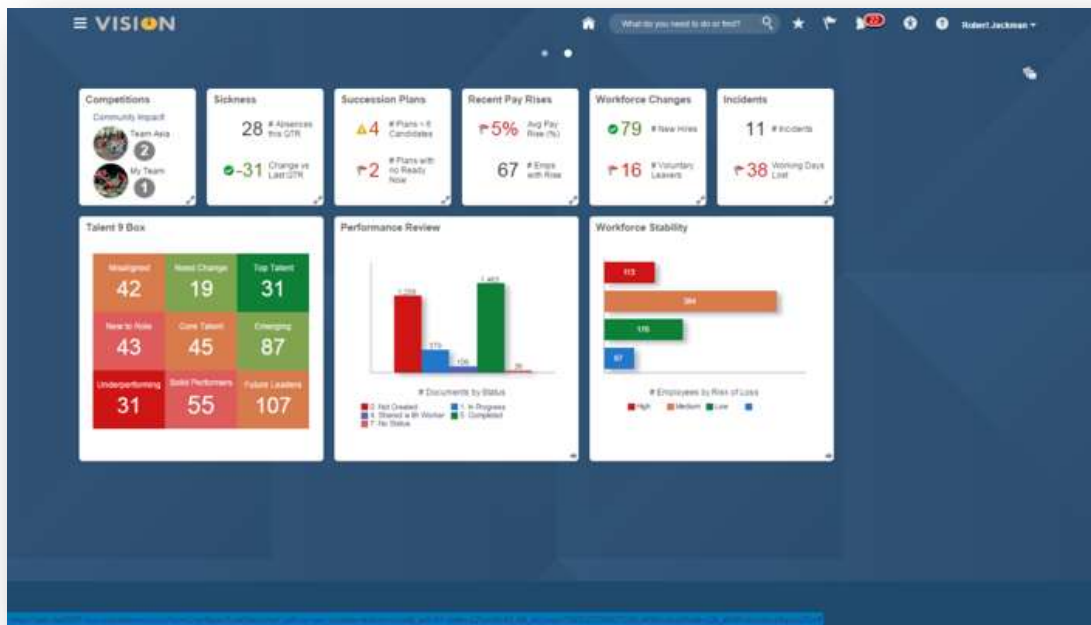
- Easy blending of data sets with the most appropriate handling to avoid double counting
- Auto-default to the appropriate visualization for a given data set

Search enablement everywhere

- Type ahead in expression editor, data set browser etc.




Embed Analytics Anywhere



Spatial Analytics

- BI and Spatial Analytics used to be for specialists
 - Traditional systems needed specialists to describe what information must be supplied for business data to be rendered on a map (lat/long or address columns)
 - This was a big barrier for collaboration between these two technologies
- Newer generation BI tools do this automatically
 - Information automatically geocoded by introspection and reference data sets
 - software can automatically distinguish between Singapore and Singapore, MI, USA by looking at contextual cues

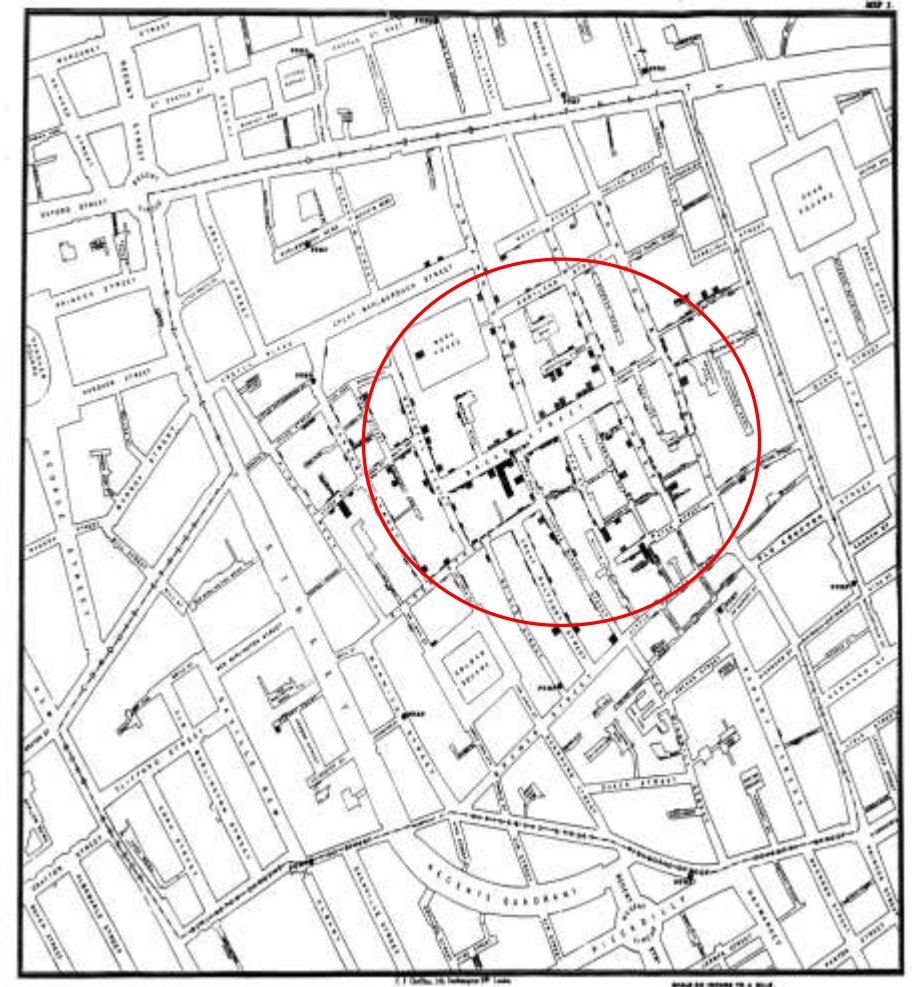
City	Revenue
San Jose	324324
Santa Clara	4432432
Singapore	54353
Redwood City	43541
Los Angeles	54354454



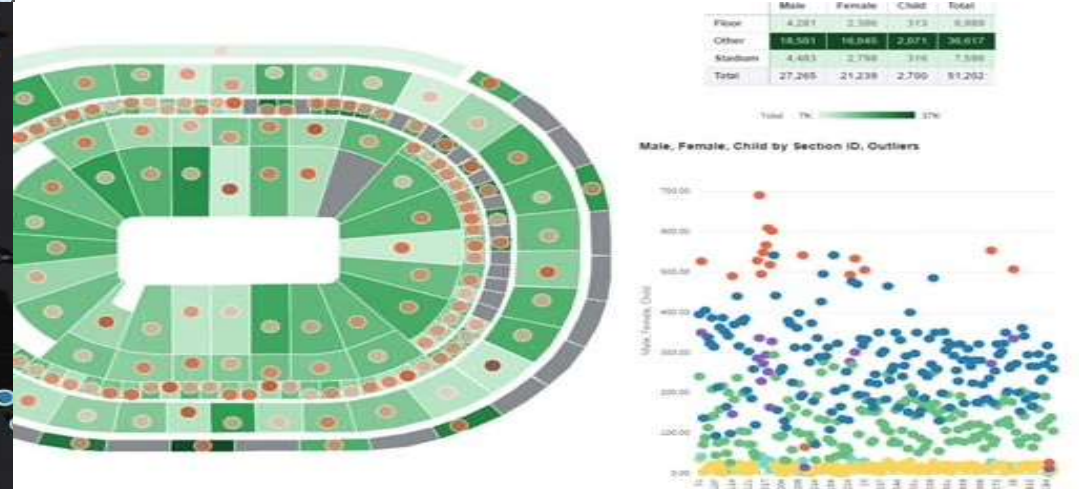
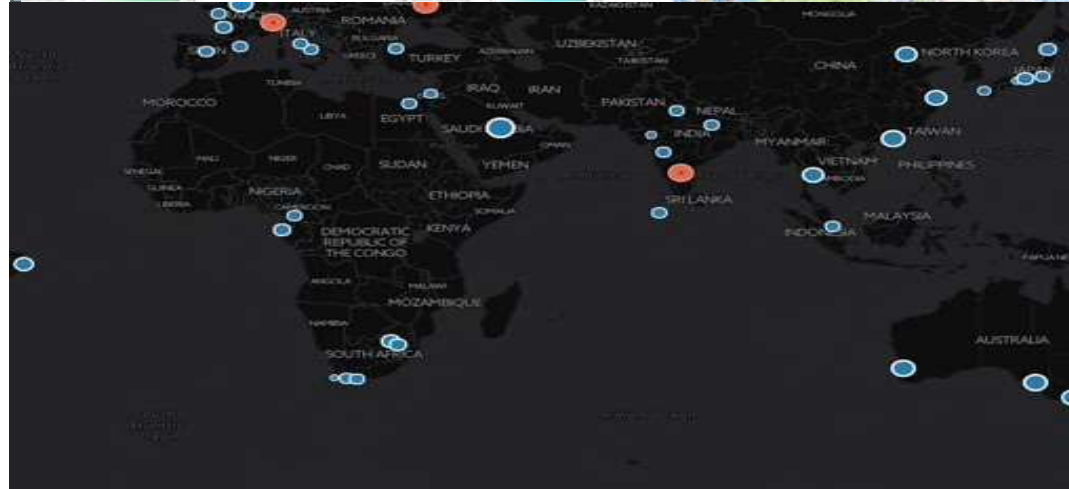
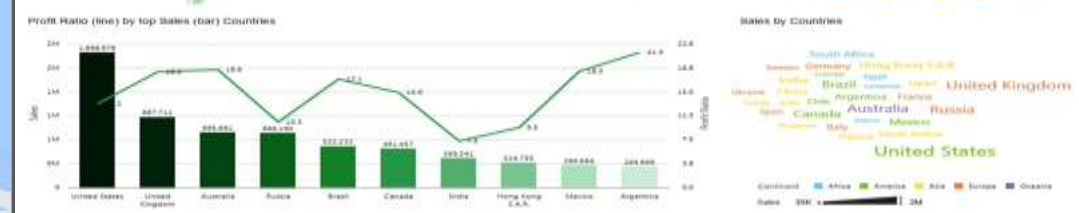
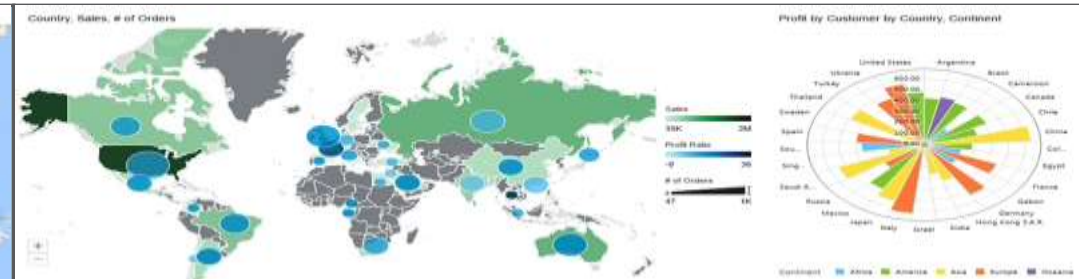
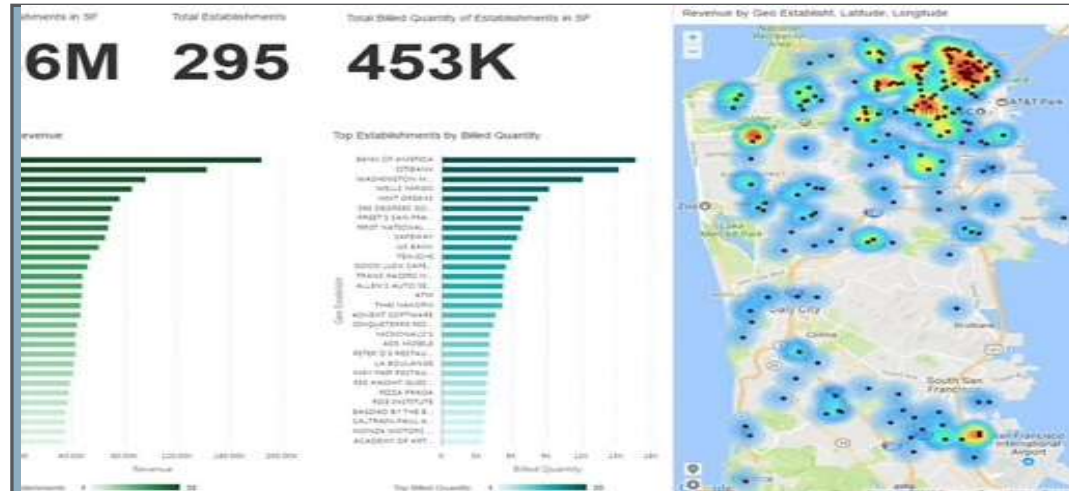
Singapore, Singapore
Or
Singapore, MI, USA?

Spatial Analytics

- Specialized geospatial algorithms (distance and route calculations, etc.) are provided as one-click operations
- Layer geospatial data
 - custom base maps and markers
 - heat maps and temporal maps
 - clustering and geofencing (lasso a region or area as a new dimension) as basic APIs
 - 3D visualizations as well as animation on maps, such as a truck or storm moving
- Provide support for several built in map types

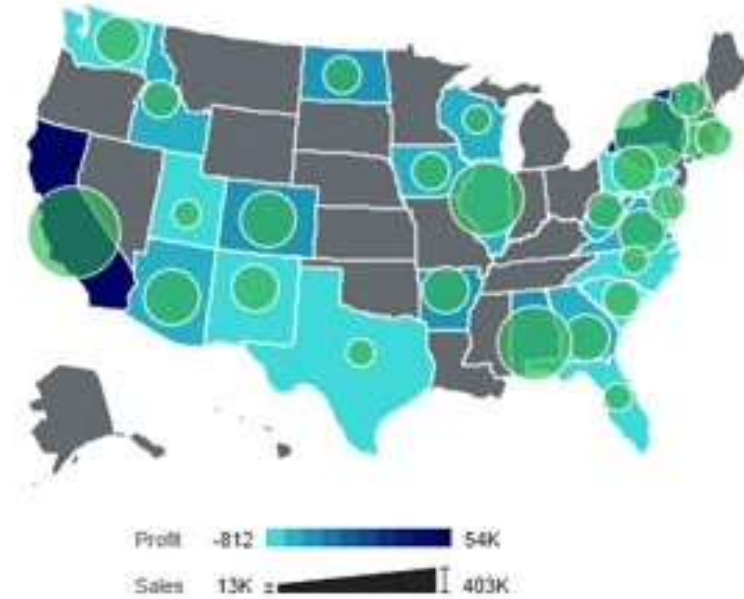


Support Multiple Map Types



Show Multiple Dimensions of Data on the Map

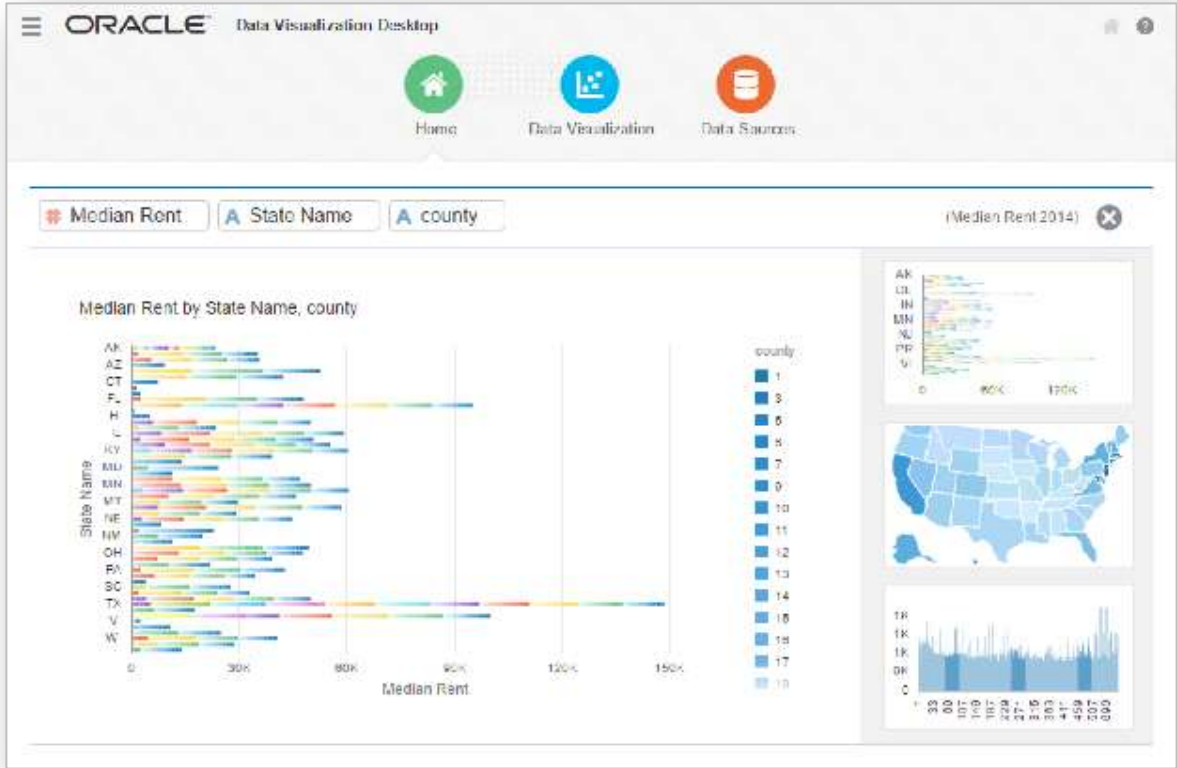
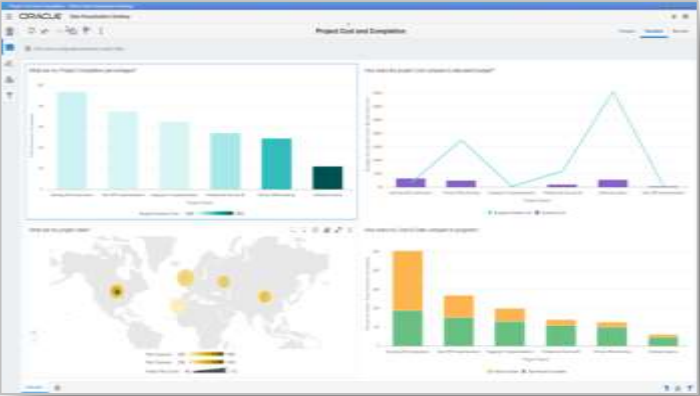
Order	Avg Order Size	Avg Order Size	Avg Order Size
2.92	2,115.31	545.28	1,617.44
2.74	176.89	7,242.76	2,612.79
1.38	688.64	309.46	3,325.78
2.09	1,949.95	4,269.26	2,800.64
6.17	514.96	118.70	2,252.01
3.68	803.61	293.85	1,001.70
7.51	1,117.62	2,557.31	302.34
9.80	650.41	53.47	3,898.38
8.22	1,447.03		2,735.82
1.81			16,901.74
6.31	1,810.33		290.16
2.53	104.34	93.20	155.39
1.79	61.39		1,946.19
1.08	917.53	1,002.82	3,164.80
0.05	1,588.50	1,517.45	3,502.96
5.93	1,449.67		546.95
	916.65	1,133.91	6,596.56



Sales, Profit by State, City, Customer Segment

United States		
	Sales	Profit
Alabama	163,765.87	10,937.55
Arizona	57,075.05	5,540.06
Address	56,444.75	44,744.30

Bring Spatial analytics into the BI



Future is all about Self Service

- Next generation Business Intelligence is all about “self-service”
- Businesses looking for deeper, customizable functionality do not want to turn to specialized vendors for advanced spatial analytics and additional data sets such as demographics
- Changes in the technology over recent years means that spatial mapping and analysis software is becoming more user-friendly, moving out of the sole domain of GIS professionals and into the realm of everyday users
- Self Service Maps is the next big thing in BI and Spatial Analytics

Tell Better Stories with Your Findings



Interactive data storytelling

- Evaluate each story point, “kick the tires” and validate conclusions
- Presentation mode enables focus on the story point, while offering complete interactivity
- Freeform text and images enable in-place discussions

Consume anywhere

- Mobile, desktop and browser
- Native integration with mobile platforms to enable seamless hand-offs, screen-shares, and more

