Esri with Hana: Value Acceleration and User Adoption in San Diego
Scott Daeschner, GIS Manager, City of San Diego
Mike Eggenberger, Vice President, Critigen
Session ID #83903
About the Speakers

Scott Daeschner
- Enterprise GIS Manager, City of San Diego
- Many years driving GIS to the enterprise and to the world
- Youth ultimate frisbee coach

Mike Eggenberger
- Vice President, Critigen
- Enterprise GIS Strategist with a background in ERP
- Participated in a War of 1812 re-enactment of a shore bombardment
Key Outcomes/Objectives

• Understand how to **take advantage** of two major technology advancements to **accelerate value** to the enterprise
  
  – SAP’s Road to Hana
    
    • **Technology:** Hana is SAP’s in-memory database platform. SAP is moving all its core ERP clients to Hana from other platforms. It has matured and now is a supported Esri platform.
    
    • **Impact:** All SAP customers will need to make major technology and business transformation in next few yrs.
  
  – Esri’s platform improvements
    
    • **Technology:** Esri product family release is a major architectural advancement.
    
    • **Impact:** All Esri customers need to make major technology and business transformation within the next few yrs.
Agenda

• The City of San Diego
  – Who are we?
• Innovation background
  – How did we get here?
• Geo-enablement re-imagined
  – Haven’t I heard this before?
• The Value Acceleration process
  – Step-wise approach
• The progress so far
  – Value to the City and its citizens
The City of San Diego
&
Innovation Background
City of San Diego Overview

• The City of San Diego is the 8th largest city in the United States and the 2nd largest in California, with an estimated population of 1.37 million*

• San Diego covers 342 square miles and stretches nearly 40 miles from north to south. There are 93 miles of shoreline including bays, lagoons and the Pacific Ocean*

• The City of San Diego meets the needs of its residents in many critical areas including Public Safety and Health, Park and Recreation facilities, Utility Services, as well as resident and administrative support activities.

*Source: www.sandiego.gov
Geo-Enablement Foundation of Success

✓ User adoption has been amazing
✓ Most new requests for functionality come with a “how can I get a map with this”? 
✓ Many additional departments and users
  ▪ DSD, Fire, PD, Planning, Environment, Mayor, Special Events
Geo-enablement Reimagined
Not your Parents geo-enablement

Esri’s Services Based Architecture
- Geodatabase on HANA
- ArcGIS Pro
- Mobile/Web leveraging common data platform
- SOE, SOI, SOR consume business data
- Feature services available for Enterprise Apps

SAP data integrated into Esri apps and analytics!

Fully Geo-enabled SAP Landscape:
- S/4 and Business Suite on HANA (SOH)
- Mobile Work Management Applications
- Data Sync Frameworks
- Digital Board Room, SAP Analytics Cloud (SAC), etc.

Esri maps & geometry integrated into SAP apps and analytics!

HANA PLATFORM

- Esri Published Geodatabases
- Esri Production Geodatabases
- SAP Business Suite
- OSIsoft, other applications etc...

Portal
Web Viewers
Insights
Mobile GIS
Work Management
SAP Dashboard
SAC
Business Suite
w/ Web Maps
Esri and SAP – The Big Picture

Empowering the Enterprise

System of Record
Integrate ArcGIS and SAP ERP (ECC or S/4HANA) to streamline business processes and workflows

System of Engagement
Use the ArcGIS mapping platform to bring the data stored in a SAP HANA database to life with interactive maps and apps

System of Insight
Use ArcGIS to bring comprehensive location analytics and data visualization capabilities to your analysts and data scientists

Better Together

- Real-Time
- Authoritative Data
- RESTful Services
- Apps
- On Demand Access
- Collaboration
- Insights
- Python Notebooks
- Demographics, Weather, Traffic, …
Approaches for Integrating SAP EAM and ArcGIS

Data

Accomplished Using:
- Synchronizing via APIs (in batch, real-time, on-demand)
- Accessing Database Views in SAP HANA

Workflows & Processes

Accomplished Using:
- APIs and Custom Code
- 3rd Party Solutions

Applications People Use

Accomplished Using:
- APIs and Custom Code
- COTS Products from SAP & Esri
- 3rd Party Solutions

(e.g., move utility pole and all connected assets across the street)
## Goals
- Understand and align technology with City strategy and initiatives
- Increase the adoption of technology through value acceleration
- Develop a roadmap with initiatives whose value can be realized in 3-6 months

## Success Measures
- Identify initiatives that could benefit from technology
- Prioritize initiatives based on complexity, dependencies, department representation, and strategy alignment
- Approval of road map from all stakeholders
- Execution of next steps to begin realizing value

### Pre-Assessment
- Gather information
- Identify Goals
- Design & structure workshops

### As Is Workshop
- Outline Value Acceleration Approach
- Demonstrate technical capabilities
- Gather input from cross section of City department stakeholders
- Identify business processes that could benefit from EOH

### Synthesis
- Compile input from As Is workshop
- Create and validate matrix of potential use cases with partners and key stakeholders
- Draft recommendations based on use case feasibility, scale, value, and impact
- Develop draft roadmap that accelerate value for the City

### To Be Workshop
- Review Value Acceleration Process
- Present Top 10 initiative candidates to City stakeholders for feedback
- Outline how value accelerators contribute to overall To Be vision
- Evaluate next steps for ensuring quick value realization

### Next Steps
- Customer endorsement for Esri on Hana
- Establish a timeline to value
- Develop statement(s) of work for initiatives
- Initiate technical foundations
- Initiate implementation of initiatives
The Enterprise is the killer app
INCREMENTAL – NOT MONUMENTAL

• Value can be found through incremental moves towards tomorrow’s vision.
• Leverage today’s tools and start to build for tomorrow’s enterprise.
• Utilize a measured, initiative-based approach.
• Initiative deployment and use results in the discovery of new use cases and initiatives.
## COMPREHENSIVE SELECTION CRITERIA
### SETTING THE STAGE

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Access - Public</td>
<td>Implement tools and processes to provide citizens with information on focused topics. These initiatives inform the community, provide transparency to City initiatives, and allow citizens to engage with the City.</td>
</tr>
<tr>
<td>Data Access - Internal</td>
<td>Provide better access of data to internal City stakeholders, as well as establishing enterprise data sources that can be leveraged outside of individual departments.</td>
</tr>
<tr>
<td>Data Analytics</td>
<td>Develop and/or implement data products and engagement/insight tools for self-service of analytics by internal stakeholders.</td>
</tr>
<tr>
<td>Data Governance</td>
<td>Standardize and/or enhance the management of data to support broader enterprise initiatives.</td>
</tr>
<tr>
<td>Process Improvement</td>
<td>Standardize and/or enhance business processes to better support an individual department or the enterprise.</td>
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<table>
<thead>
<tr>
<th>Horizon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short</td>
<td>Initiative can be implemented quickly based on availability of existing architecture and infrastructure, data, and business process OR priority of significance to escalate the implementation of the initiative solution.</td>
</tr>
<tr>
<td>Medium</td>
<td>Initiative is moderately complex with dependencies that must be met prior to full execution of initiative solution.</td>
</tr>
<tr>
<td>Long</td>
<td>Initiative complexity will require longer time to implement. Complexity could be based on: required architecture and infrastructure availability or complexity, dependency on supporting data, or significance of change management related to supporting business processes OR lower priority initiatives on longer implementation horizons.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiative Scale</th>
<th>Design and Implementation Measure</th>
</tr>
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<tbody>
<tr>
<td>Small</td>
<td>2-4 months</td>
</tr>
<tr>
<td>Medium</td>
<td>4-8 months</td>
</tr>
<tr>
<td>Large</td>
<td>&gt;8 months</td>
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# Top Value Acceleration Initiatives

<table>
<thead>
<tr>
<th>Asset Information</th>
<th>City Planning &amp; Permitting</th>
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</thead>
<tbody>
<tr>
<td>Asset Information Viewer</td>
<td>DSD Geoenablement</td>
</tr>
<tr>
<td>Stormwater Condition and Risk Assessment</td>
<td>Conflict Detection - Pavement Digs</td>
</tr>
<tr>
<td>Emergency Response and Planning</td>
<td>Civic Engagement</td>
</tr>
<tr>
<td>Fire Hydrant Status Viewer</td>
<td>Sidewalk Program Viewer</td>
</tr>
<tr>
<td>Emergency Response Routing Enhancements</td>
<td>Citizen Project Portal</td>
</tr>
<tr>
<td>Emergency Response Analytics Tools</td>
<td>Homelessness Outreach Initiative</td>
</tr>
</tbody>
</table>
Value realization roadmap

INITIATIVES
- Asset Information
- Emergency Response & Planning
- City Planning & Permitting
- Civic Engagement
- Additional Initiatives
- New Initiatives

VALUE MEASURES
- TRANSPARENCY
  - DATA ACCESS
  - ACCELERATED INSIGHTS
- CONSISTENT DATA PRODUCTS
  - STANDARDIZED PLATFORM
  - FASTER APPLICATION DELIVERY
  - SELF-SERVICE ACCESSIBILITY
  - LOWER COST OF OWNERSHIP
There is a lot more value to come!

<table>
<thead>
<tr>
<th>Initiative</th>
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</thead>
<tbody>
<tr>
<td>CIP Status Viewer</td>
</tr>
<tr>
<td>As-built Capture and Quality Enhancements</td>
</tr>
<tr>
<td>Ortho Imagery and Lidar Data Processing</td>
</tr>
<tr>
<td>Available Parking</td>
</tr>
<tr>
<td>AVL Analytics - Streets</td>
</tr>
<tr>
<td>Opioid Response</td>
</tr>
<tr>
<td>Scattershot Information &amp; Analytics</td>
</tr>
<tr>
<td>Vision Zero Enhancements</td>
</tr>
<tr>
<td>COMNET Water SCADA System Analytics</td>
</tr>
<tr>
<td>311 Insights Enhancements</td>
</tr>
<tr>
<td>Asset Condition Assessment Enhancements</td>
</tr>
</tbody>
</table>

See appendix for information on other initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict Detection - Projects</td>
</tr>
<tr>
<td>Environmental Monitoring Data Enhancements</td>
</tr>
<tr>
<td>Predictive Commuting</td>
</tr>
<tr>
<td>Sewer Overflows and Water Main Break Analytics</td>
</tr>
<tr>
<td>Special Events Attendance Counts</td>
</tr>
<tr>
<td>Stormwater Inspections and Violations Enhancements</td>
</tr>
<tr>
<td>Streetlight Compliance Driven Placement</td>
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<tr>
<td>Traffic Analytics</td>
</tr>
<tr>
<td>Utilities Underground Viewer</td>
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Progress So Far

- Created technology infrastructure, systems and processes to support migration and deployment
- Created Hydrant status viewer
- Created Sidewalk Viewer
Take the Session Survey.

We want to hear from you! Be sure to complete the session evaluation on the SAPPHIRE NOW and ASUG Annual Conference mobile app.
Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

http://info.asug.com/2019-ac-slides
For questions after this session, contact us at [Mike.Eggenberger@Critigen.com] and [SDaeschner@sandiego.gov].
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