



ArcGIS Data Reviewer

Advanced Data Validation Concepts

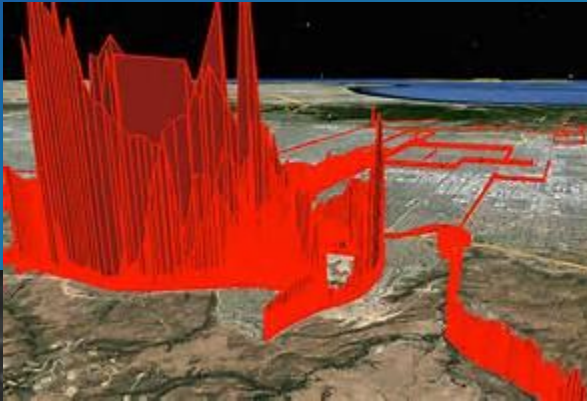
Francisco Perez & Shankar Chandrasekaran

Workshop Agenda

- **Why Quality Control Matters ?**
- **What is ArcGIS Data Reviewer?**
- **Quality Control - A Seamless Experience**
- **Challenges in Production and Management of Data**
- **Advance Data Validation Process/Building an Integrated QA Platform**
- **Best Practices**

Why Quality Control Matters

- In 2010 BP Deepwater Horizon Rig exploded due to a number of quality failures.
- In 2015 Aliso Canyon gas leak
- In 2015 Refugio State Beach Oil Spill -The pipeline did not have an automatic shut-off valve that would have been required on an intrastate pipeline



Garbage in Garbage Out



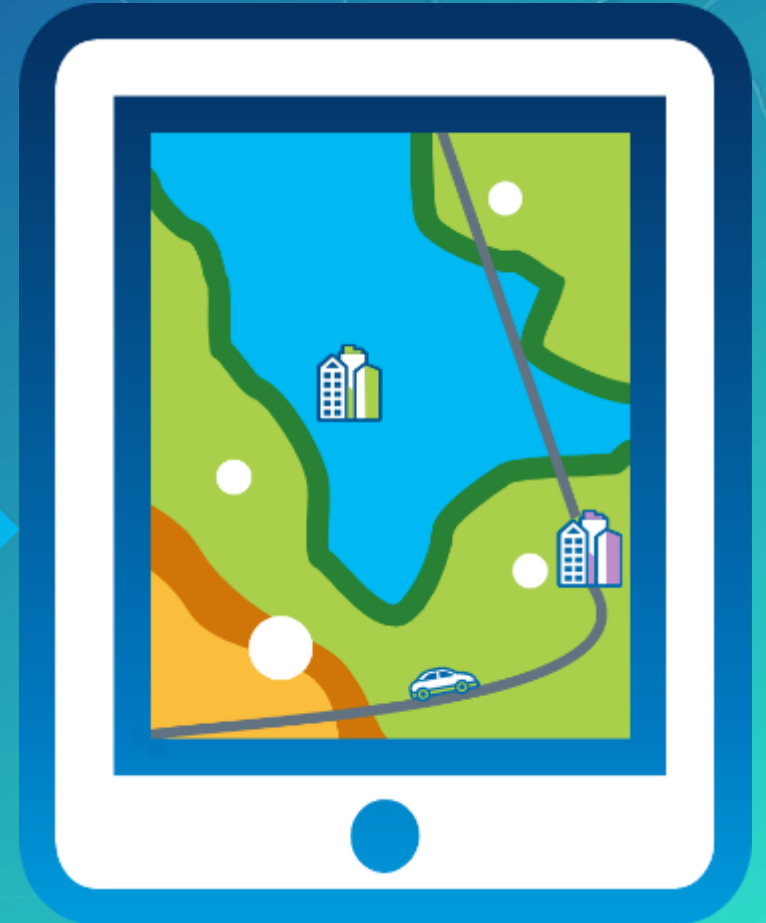
Buildings



Water Bodies



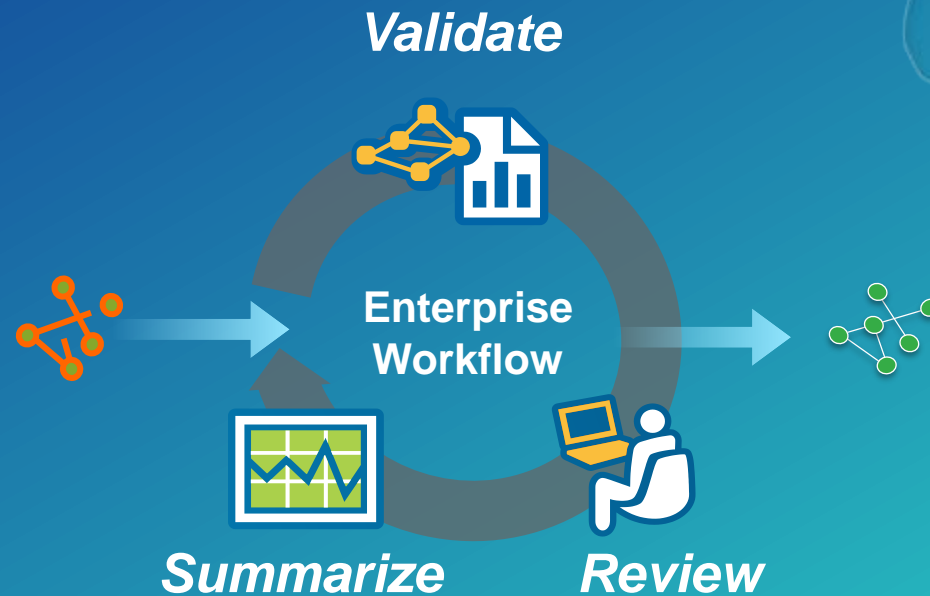
Roads



What is ArcGIS Data Reviewer?

Data Quality Management for ArcGIS

- Provides
 - Rule-based validation
 - Interactive tools
 - Track errors
- For individuals and enterprise
 - Saves time/money
 - Less rework
- For multiple domains
 - Configurable
 - Extendable



Garbage in Quality Out



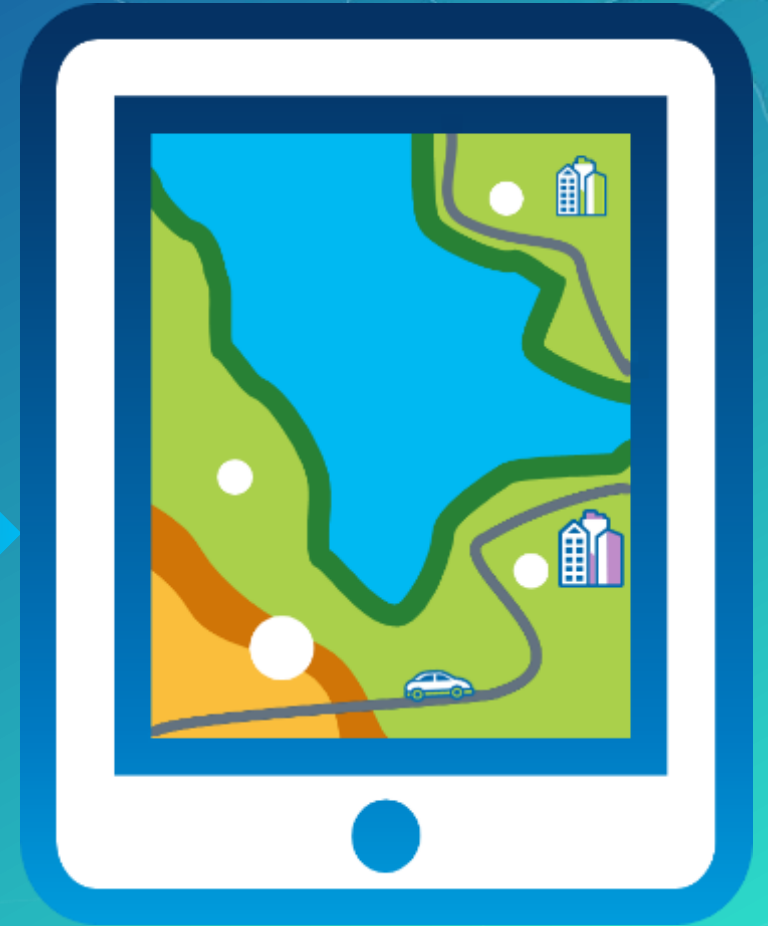
Buildings



Water Bodies



Roads



What is ArcGIS Data Reviewer?

Data quality management in the ArcGIS platform

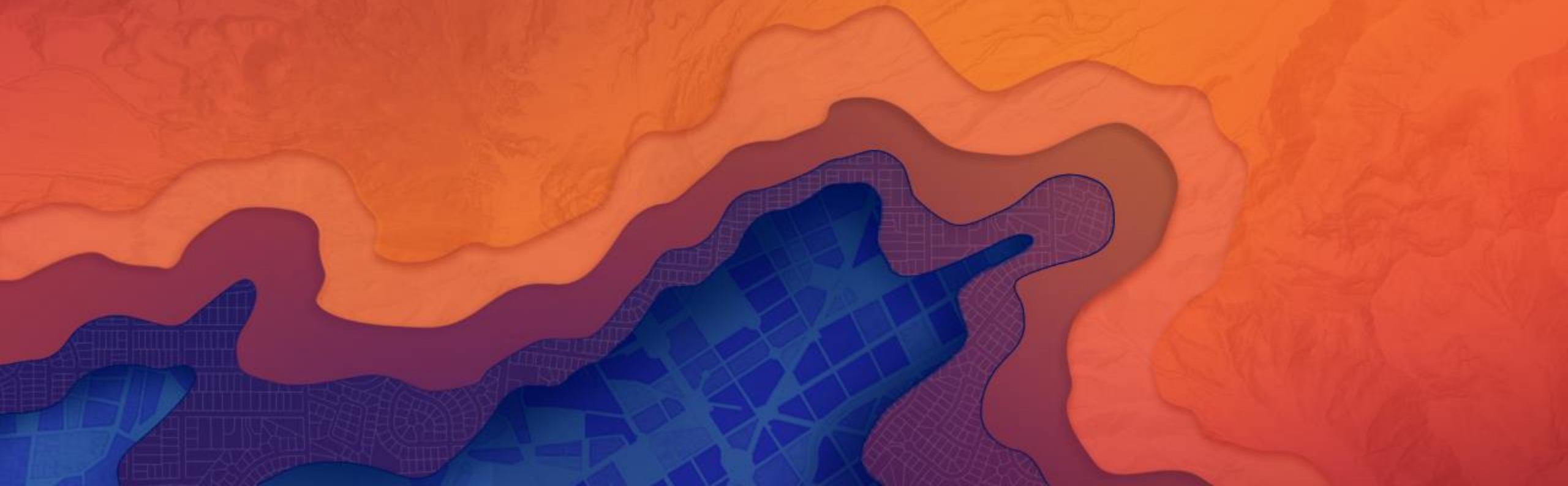
- Data Reviewer for Desktop
 - ArcGIS Pro
 - ArcMap
- Data Reviewer for Server
 - ArcGIS Server (standard or higher)
- Data Reviewer API
 - JavaScript
 - ArcGIS Pro SDK for Microsoft .NET
- Web AppBuilder for ArcGIS



Quality Control

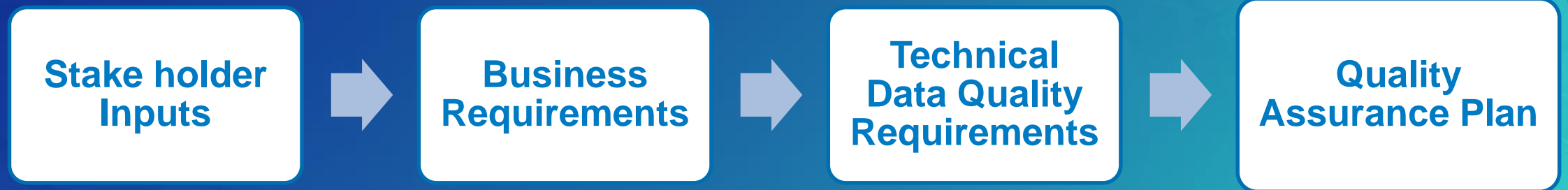
- A Seamless Experience

Using ArcGIS Platform



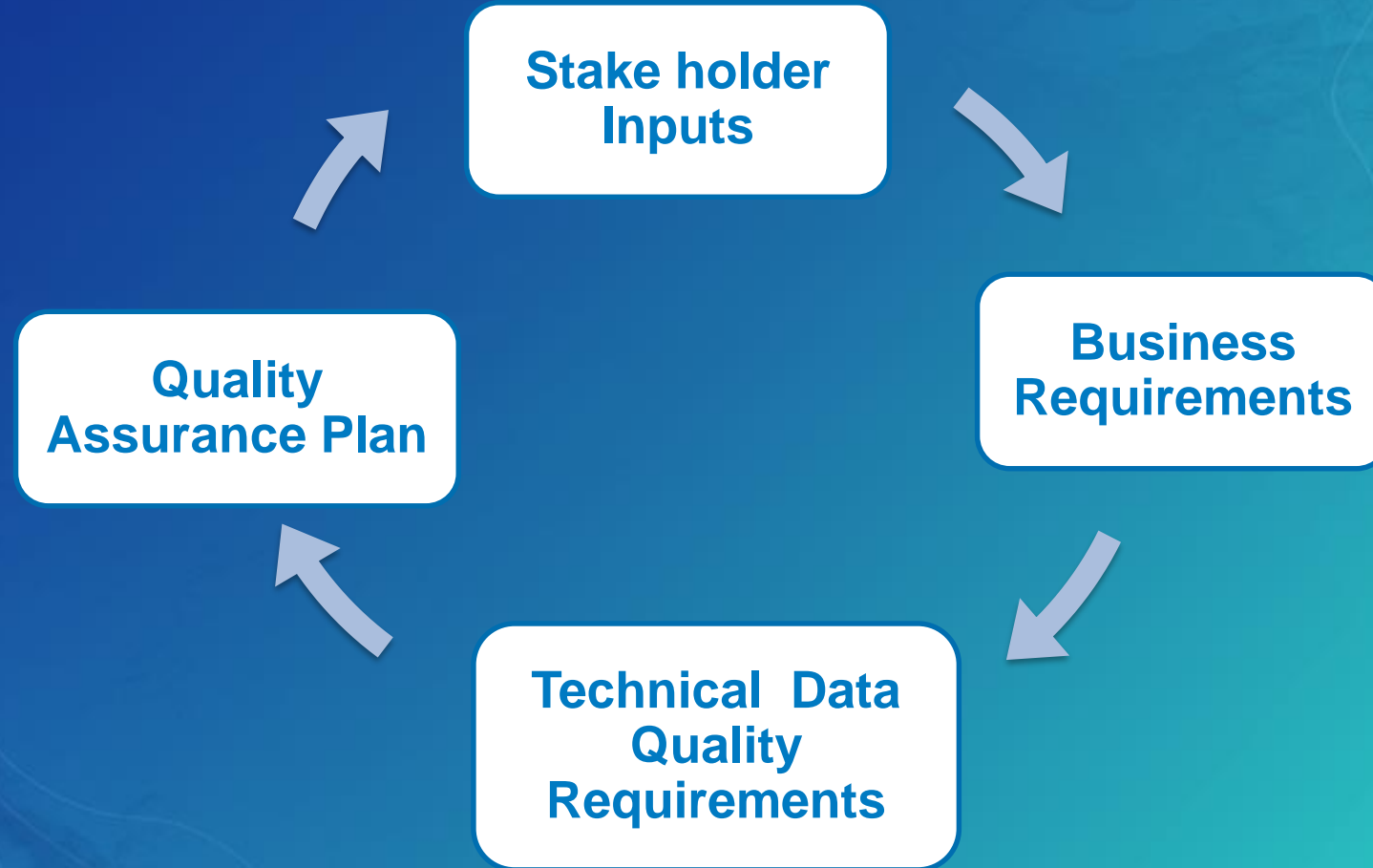
Requirements

Quality Assurance Plan



Requirements

Quality Assurance Plan - Cyclic



Requirements

Quality Assurance Plan - Challenges

Dynamic

Change at different points in time

Change triggered by

- New business requirements
- Internal Process Improvements

Change across organization

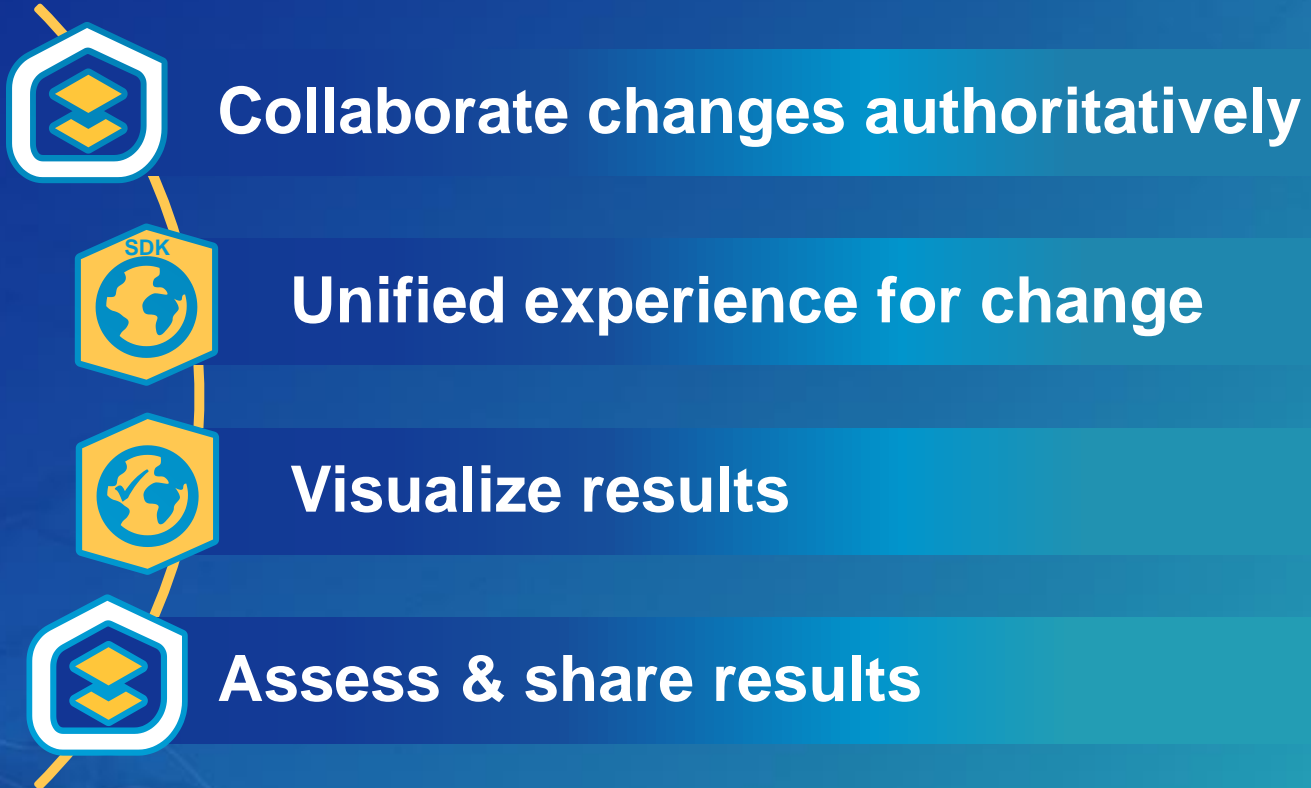
Common

Disruptive in Nature

Requires more changes in QC process

Requirements

Quality Assurance Plan – Manage Change



Quality Control - Demo

Shankar Chandrasekaran

Key Components

Quality Assurance Plan – ArcGIS Platform



Questions ?

Challenges in Production/Management of Data

Francisco Perez

Challenges in Production and Management of Data

Data Production

Data being created is of poor quality

Understanding data quality can be difficult

Data validation is time-consuming

Data Management

Knowing if we will meet our deadlines is difficult

There is no consistency in how work is done

Takes too long for staff to become effective

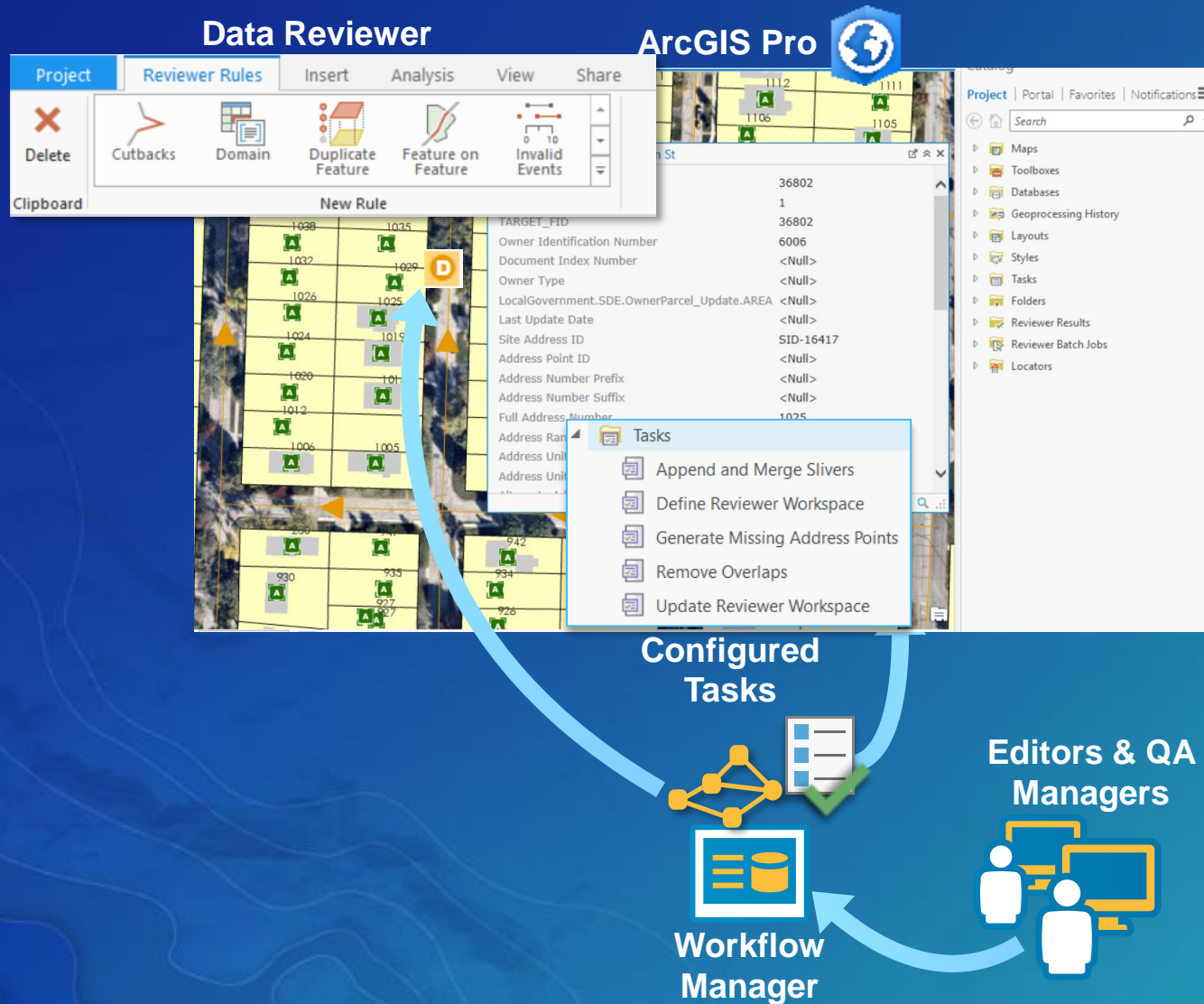
ArcGIS

Data
Reviewer

Workflow
Manager

ArcGIS Pro
Tasks

Advance Data Validation Process = Building an Integrated QA Platform



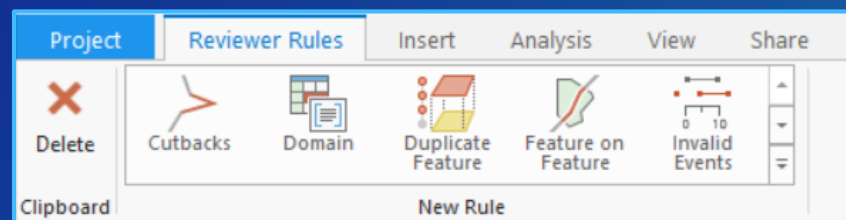
- ArcGIS Pro = Standardization
- Workflow Manager = Tracking Tasks
- Data Reviewer = Categorization/ Validation
- ArcGIS Pro Tasks = Fix/Edit

QA Platform - Demo

Francisco Perez

QA Platform Demo

Data Reviewer

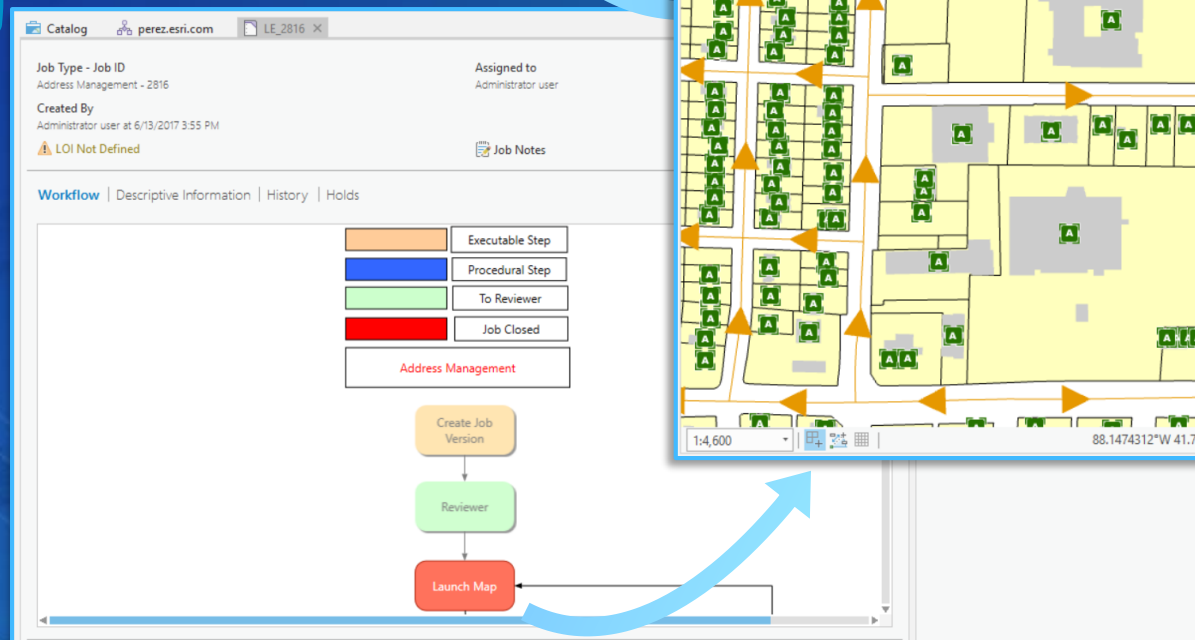


ArcGIS Pro



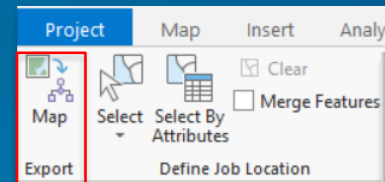
Pro Tasks

Workflow Manager



QA Platform Demo – Key Setups

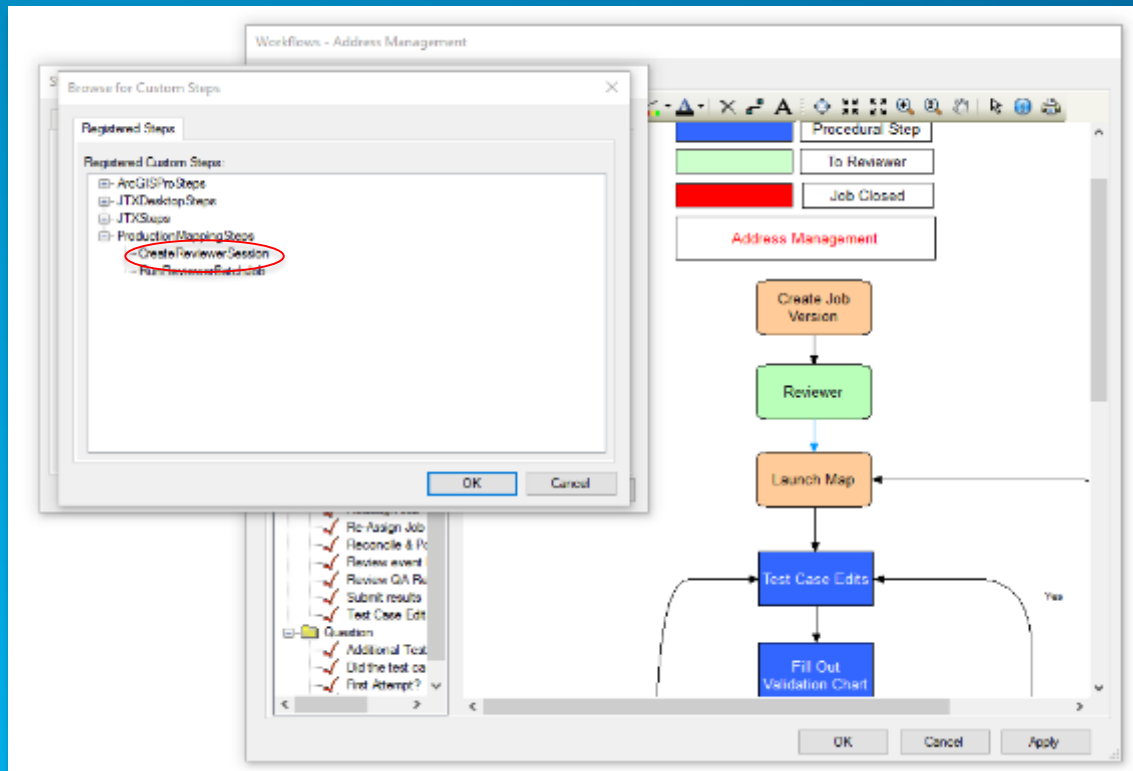
1. WMX-Reviewer Integration (Map Level)



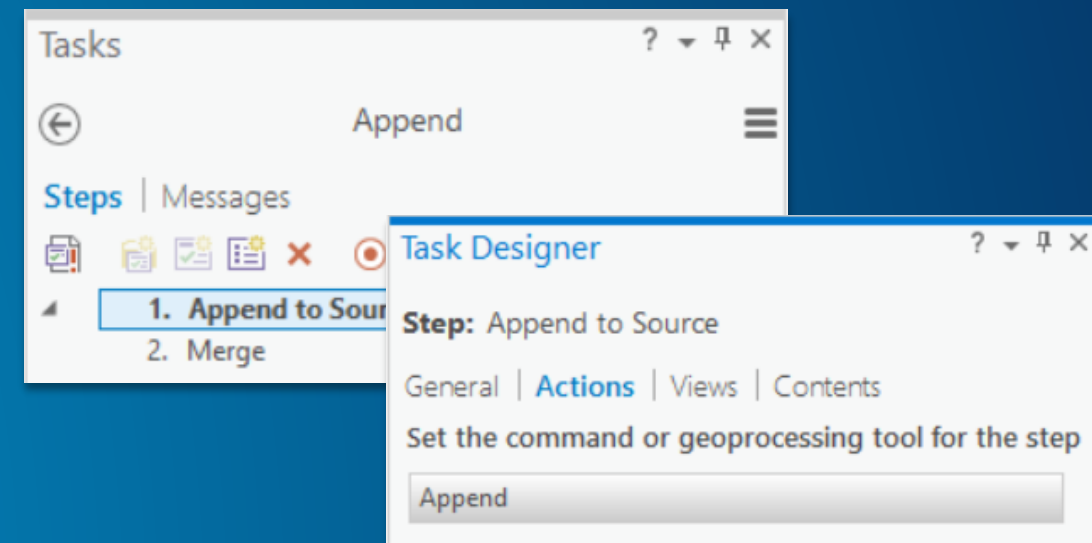
The screenshot shows the 'Project' menu in ArcGIS Pro. The 'Map' option is highlighted with a red box. Other options visible include 'Export', 'Select', 'Select By Attributes', 'Clear', 'Merge Features', and 'Define Job Location'.

Type	Title	Severity
Invalid Events	Invalid Speed Events	1
Cutbacks	Cutbacks Rule	2
Duplicate Feature	New Duplicate Feature Rule	2
Monotonicity	Monotonicity Rule	3
Feature on Feature	New Feature on Feature Rule	3
Domain	New Domain Rule	3
Query Attributes	Query Attributes Rule 2	3
Query Attributes	Query Attributes Rule 1	3

2. WMX-Reviewer Integration (Workflow Level)



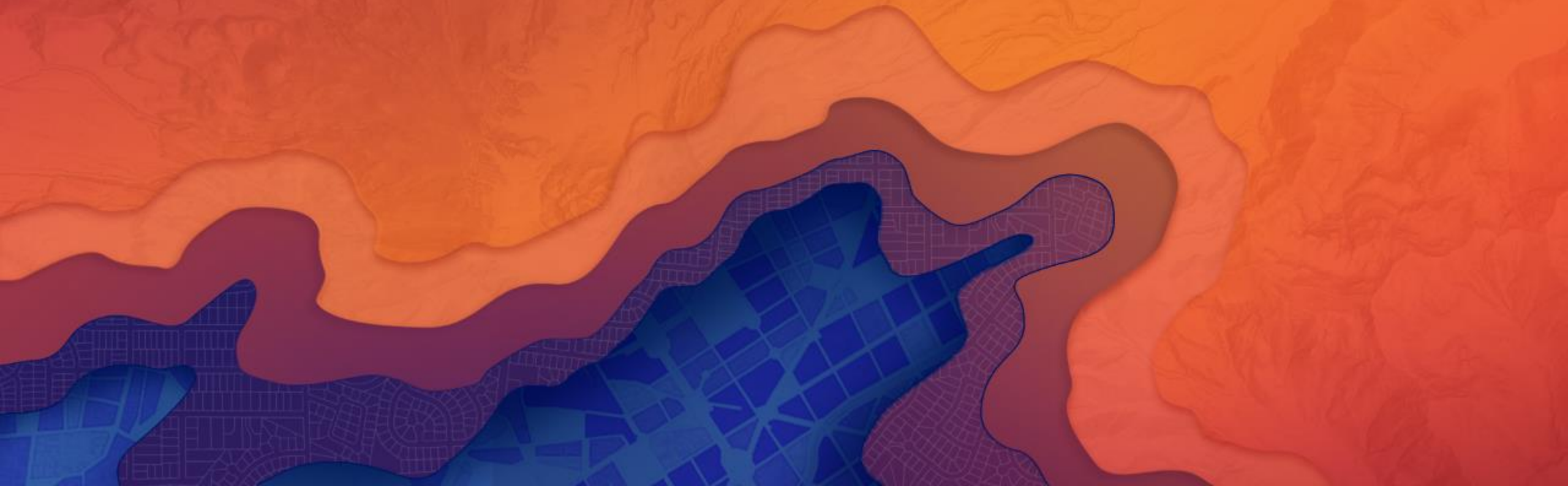
3. ArcGIS Pro Tasks (Map Level)



The screenshot shows the 'Tasks' window in ArcGIS Pro. It displays a workflow diagram with steps: 'Append', 'Steps', and 'Messages'. The 'Append' step is highlighted. Below the workflow diagram, there is a 'Task Designer' window showing the 'Append to Source' step. The 'Task Designer' window has tabs for 'General', 'Actions', 'Views', and 'Contents'. The 'Actions' tab is selected, showing the 'Append' command.

Questions ?

Best Practices



Best Practices



Organize QC Checks



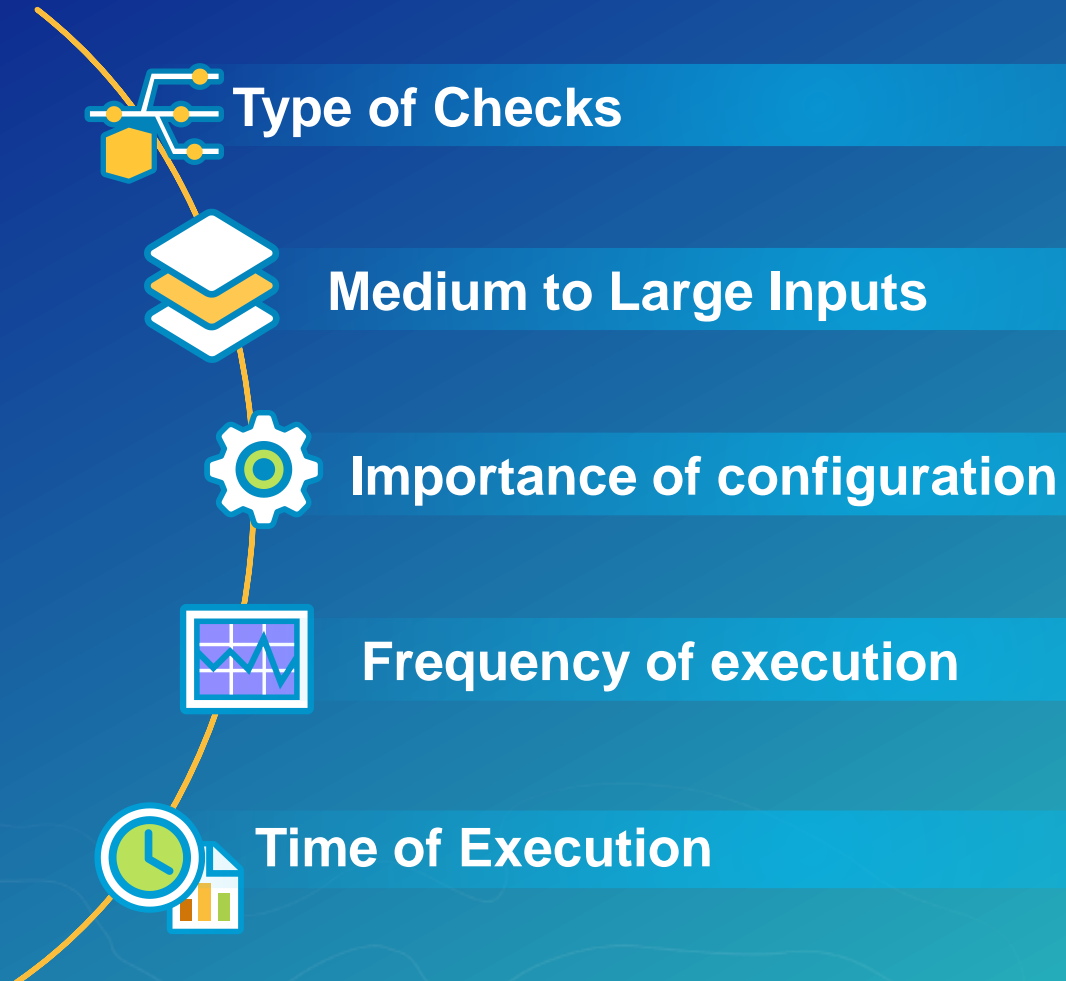
Results Storage



Sharing Results

Organize QC Checks

Best Practices



Results Storage

Best Practices



- Find and fix errors at the same time.
- No Error tracking
- No Error reporting in organization



- When reporting and history of errors matters
- Always use Non-Versioned Reviewer
- Requires managing/tracking error lifecycle

Reviewer Schema



Sharing Results

Best Practices

As Map layers

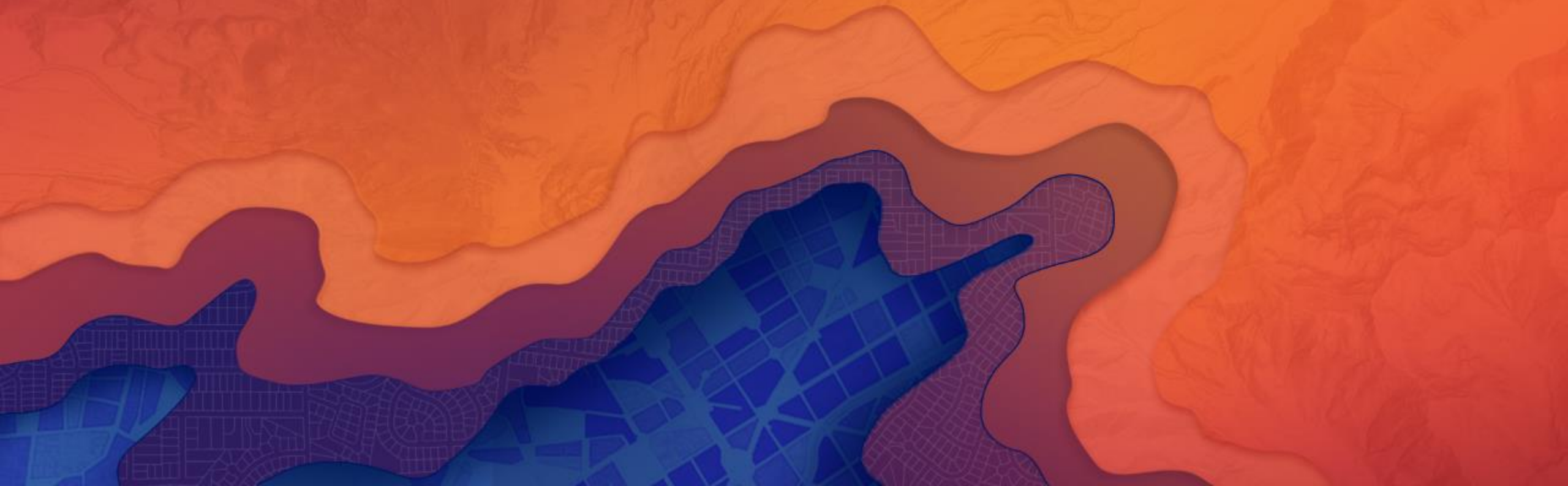
- **Map Packages**
- **Map/Map Documents**
- **Project Packages**

Using custom script tools

- **Managing Data Reviewer
Records**

<http://www.arcgis.com/home/item.html?id=651e07ac692d4be2bf9d682968a75079#>

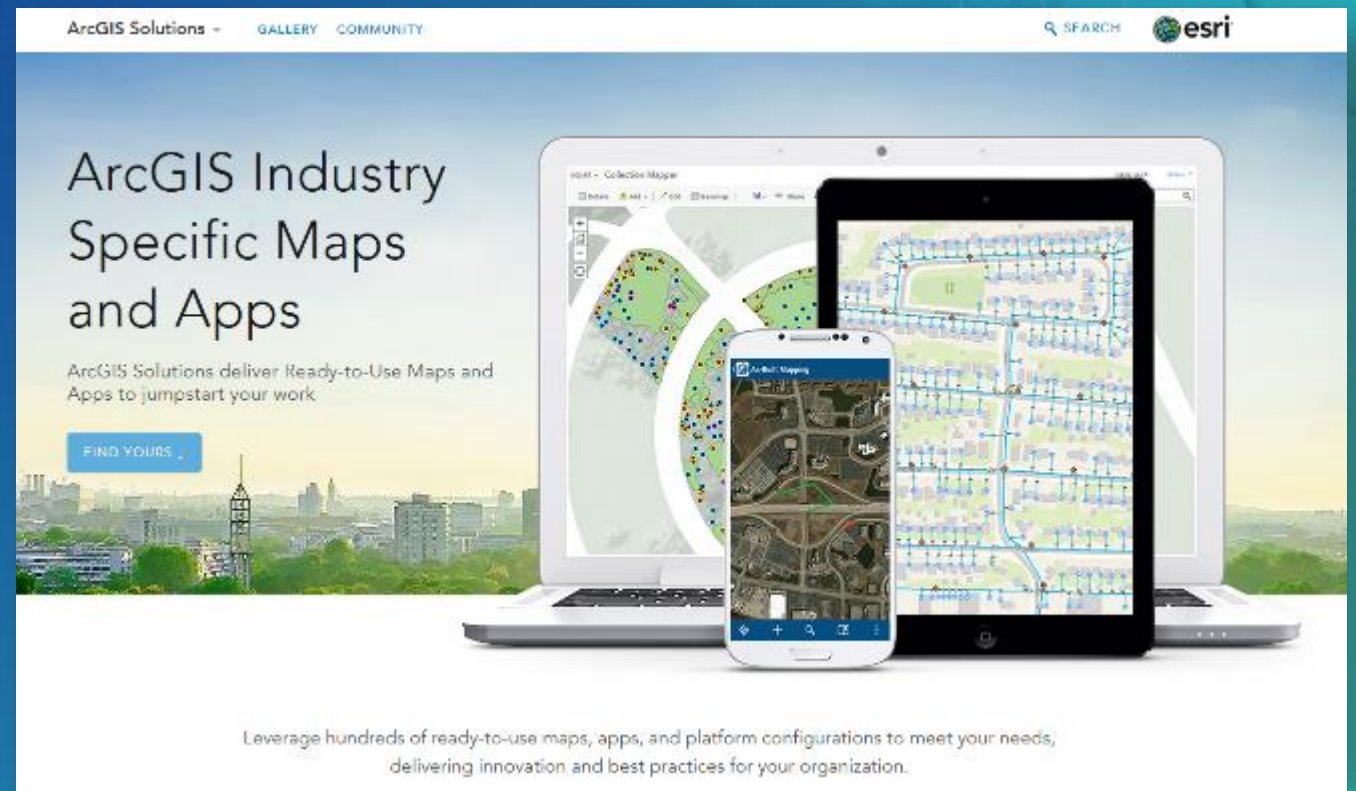
Best Practices - Demo



Where to start


Leveraging templates

- **Data Reviewer Templates**
 - **Electrical utilities**
 - **Gas utilities**
 - **Local government**
 - **Topographic mapping**
 - **Water resources**
 - **Water utilities**
- **Based on Esri industry models**
- **Use as starting point**

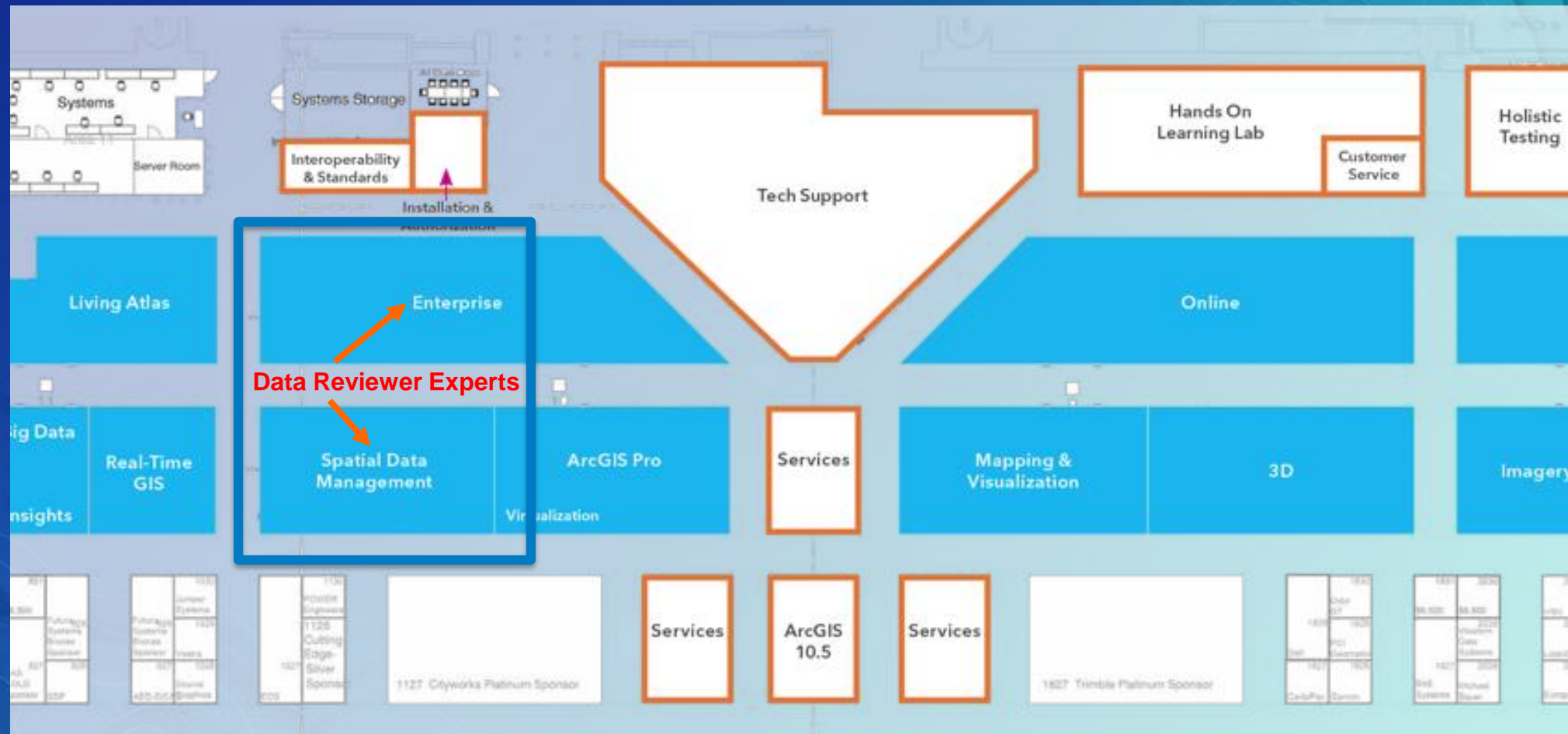


solutions.arcgis.com

Want to learn more this week?

Day and Description	Type	Time	Location
Tuesday, July 11			
ArcGIS Data Reviewer: An Introduction	Technical Workshop	10:15 – 11:30am	Room 31B
Wednesday, July 12			
ArcGIS Data Reviewer: An Introduction	Technical Workshop	3:15 – 4:30pm	Room 31B
ArcGIS Data Reviewer: Integrating Data Validation Capabilities into Web Applications	Demo Theater	3:30 – 4:15pm	Demo Theater 8 Enterprise
ArcGIS Data Reviewer: Implementing Data Quality Reporting in Web Clients	Demo Theater	4:30 – 5:15pm	Demo Theater 8 Enterprise
Thursday, July 13			
ArcGIS Data Reviewer: Advanced Data Validation	Technical Workshop	8:30 – 9:45am	Room 31A
ArcGIS Data Reviewer: Leveraging Geoprocessing for Data Validation	Demo Theater	9:30 – 10:15am	Demo Theater 6 Spatial Data Mgmt
 ArcGIS Data Reviewer: Validating Linear-Referenced Events	Demo Theater	10:30 – 11:15am	Demo Theater 6 Spatial Data Mgmt

Want to learn more this week?



Want to learn more?

- Product information
www.esri.com/datareviewer



The screenshot shows the Esri website's product page for ArcGIS Data Reviewer. The header includes the Esri logo, navigation links for Industries, Products, Support & Services, About, and Community, and a search bar with a 'Sign In' link. The main content area features a large banner with the title 'ArcGIS Data Reviewer' and the subtitle 'An ArcGIS for Desktop Extension'. A 'Get a Free Trial' button is prominently displayed. To the right of the text is an image of a tablet displaying a map with various colored flags and a white boundary line. Below the banner is a navigation bar with links for Main, Features, Use Cases, Pricing, and Free Trial. The lower section of the page is titled 'Ensure the Quality of Your Data' and contains a paragraph about data quality management. To the right of this text is a quote from Daniel Hewitt, a GIS Specialist at the City of Woodland, stating: 'We can now perform consistent QA/QC tasks and keep our data in top shape after we have done the initial time investment.'

esri Industries Products Support & Services About Community

ArcGIS for Desktop Extensions

ArcGIS Data Reviewer

An ArcGIS for Desktop Extension

Get a Free Trial

Main Features Use Cases Pricing Free Trial

Ensure the Quality of Your Data

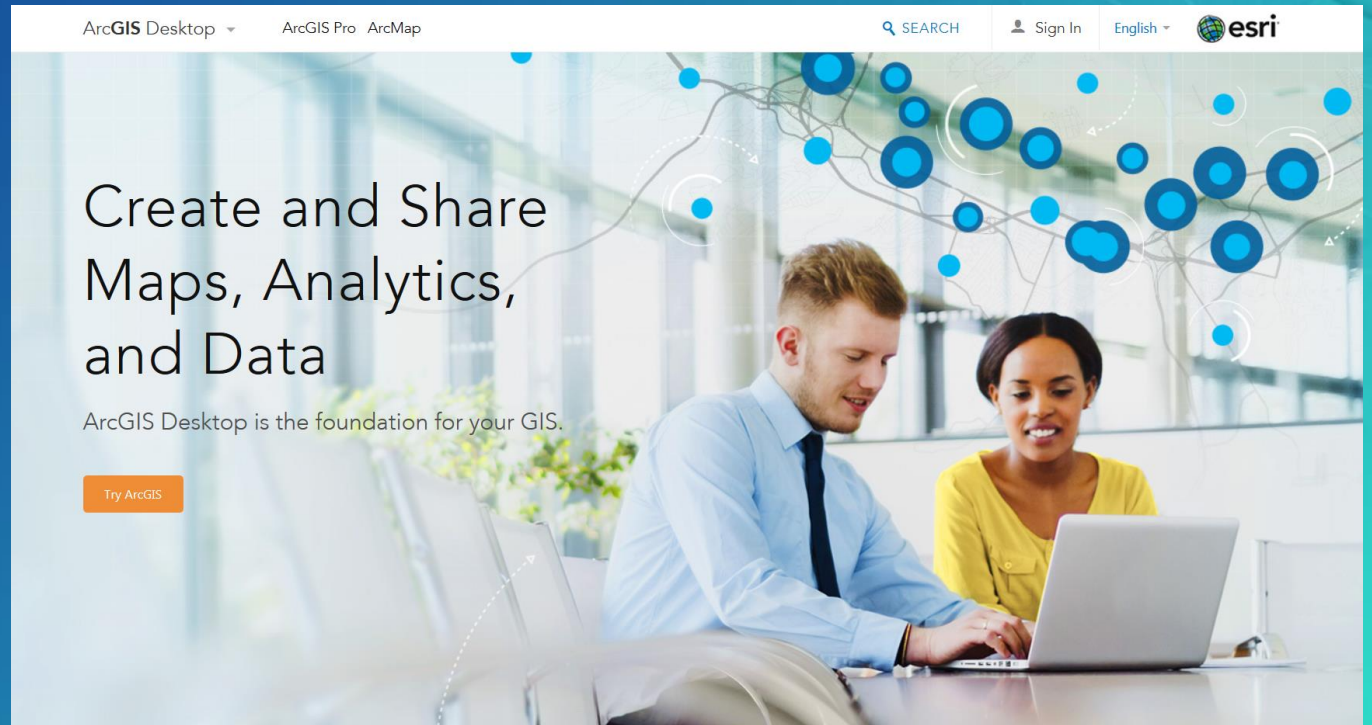
Whether managing resources for a nation or facility assets for a local community, you want to make sure that your data is free of errors. With ArcGIS Data Reviewer, you can make data quality a component of your overall data management strategy.

"We can now perform consistent QA/QC tasks and keep our data in top shape after we have done the initial time investment."

Daniel Hewitt GIS Specialist, City of Woodland

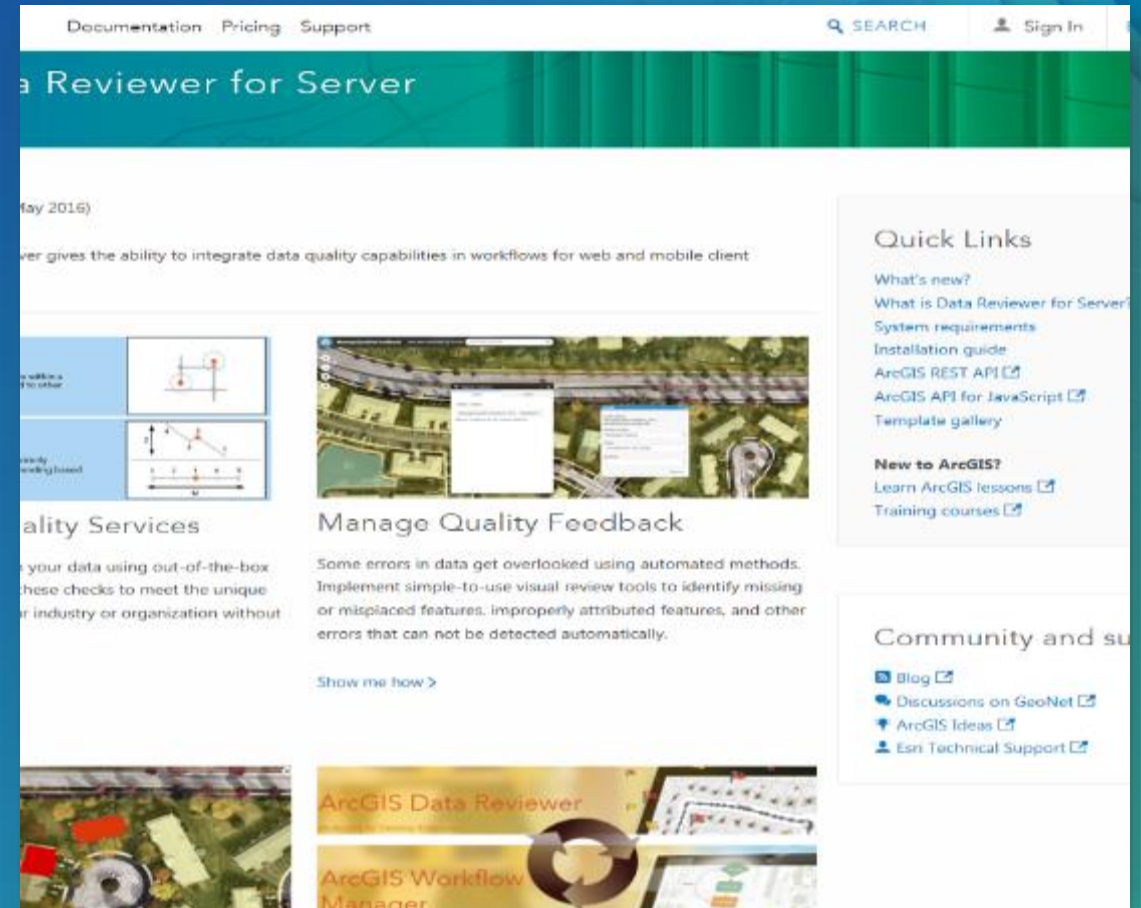
Want to learn more?

- Documentation
 - Desktop (desktop.arcgis.com)



Want to learn more?

- Documentation
 - Desktop
 - Server (server.arcgis.com)





Want to learn more?

- Documentation

- Desktop
- Server

- Training (*training.esri.com*)

-  - Assessing Data Quality using ArcGIS Data Reviewer (*Seminar*)
-  - Evaluating Positional Accuracy Using ArcGIS Data Reviewer for Desktop (*Seminar*)
- Data QC with ArcGIS: Automating Validation (*Web Course*)
- Data QC with ArcGIS: Visual Review (*Web Course*)
- Quality Control Using ArcGIS Data Reviewer for Desktop (*Instructor-Led*)

Want to learn more?

- Documentation
 - Desktop
 - Server
- Training
 - Assessing Data Quality using ArcGIS Data Reviewer
 - Evaluating Positional Accuracy Using ArcGIS Data Reviewer for Desktop
 - Data QC with ArcGIS: Automating Validation
 - Data QC with ArcGIS: Visual Review
 - Quality Control Using ArcGIS Data Reviewer for Desktop
- GeoNet (geonet.esri.com)
 - Data Reviewer place

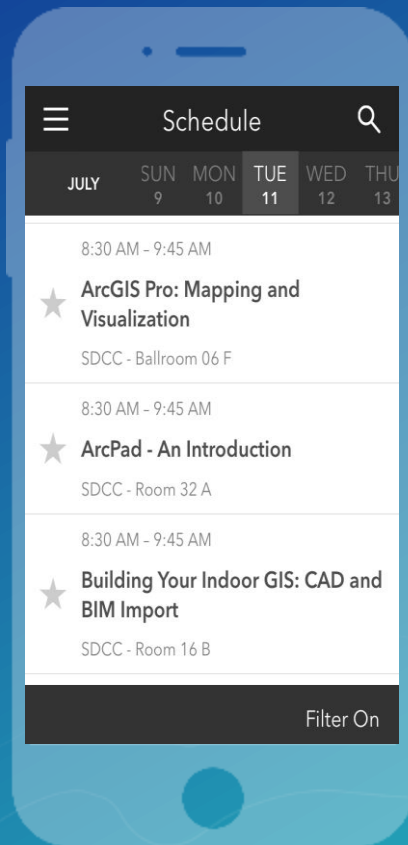


Please Take Our Survey on the Esri Events App!

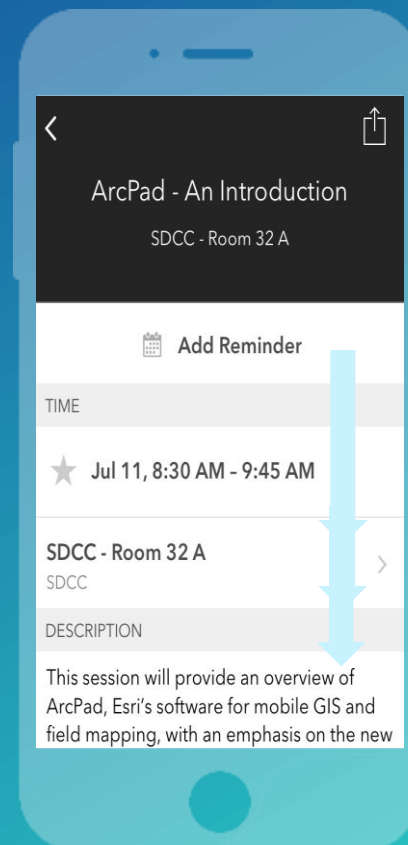
Download the Esri Events app and find your event



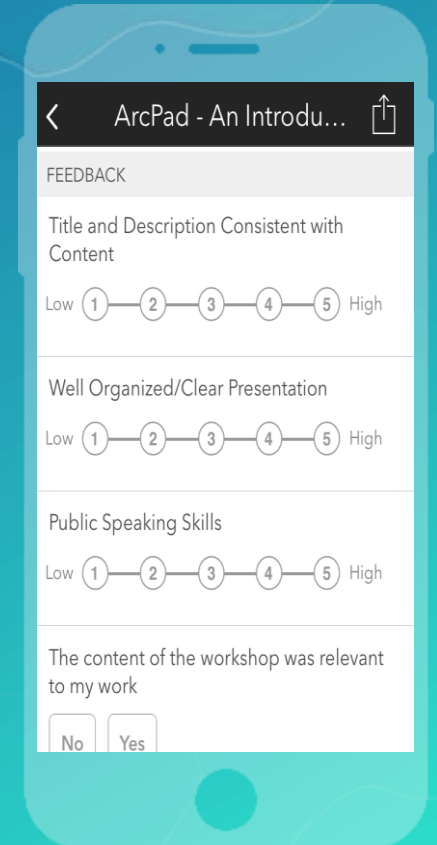
Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"



Food for thought as we conclude..

As *"GIS - The Science of Where"*
becomes an integral part of society

Shouldn't the *accuracy of "WHERE"*
be an integral part of it as well....

More to comeAdios

Questions ?



esri

THE
SCIENCE
OF
WHERE