



ArcGIS Data Reviewer Advanced Data Validation

Shankar Chandrasekaran & Francisco Perez

SEE
WHAT
OTHERS
CAN'T



Workshop Agenda

- **What is ArcGIS Data Reviewer?**
- **Quality Assurance – A seamless experience**
- **Streamline Data Collection & Maintenance**
- **Data Quality tools for Automated Review**
- **Summary**
- **Resources**



ArcGIS Data Reviewer

Reduce risk in decision-making

Lower data management costs

Streamline quality control workflows

Implement repeatable processes

Increase transparency

The screenshot displays the ArcGIS Data Reviewer interface. The main map shows a residential area with various error markers (red squares, green circles, orange triangles) overlaid on a street map. The interface includes a top menu bar with options like Project, Manage Quality, Map, Insert, Analysis, View, Edit, Imagery, Share, Appearance, Labeling, and Data. On the left, there are panels for Contents, Drawing Order, and Update Results. The Reviewer Results table at the bottom shows the following data:

Phase	Status	ID	Source	Check Title
Resolved	Resolved	7538	SiteAddressPoint	Site Address Point Must Have Valid Domains
Reviewed	Reviewed	11423	SiteAddressPoint	Site Address Point Must Have Valid Domains
Reviewed	Reviewed	12803	SiteAddressPoint	Site Address Point Must Have Valid Domains
Reviewed	Reviewed	12961	SiteAddressPoint	Site Address Point Must Have Valid Domains

The Reviewer Dashboard widget shows a pie chart with the following data:

Category	Count
Roads Centerline Must Have Valid Domains	140
Other	58
Other	11
Other	44

Automate, simplify, standardize and unify workflows to improve data quality

Data quality management

Capabilities of ArcGIS

Geodatabase integrity

- Schema constraints
- Attribute rules
- Versioning

Advanced data types

- Topologies
- Parcel fabric
- Utility network

ArcGIS Data Reviewer

- Automated review
- Semi-automated review
- Error management
- Quality reporting



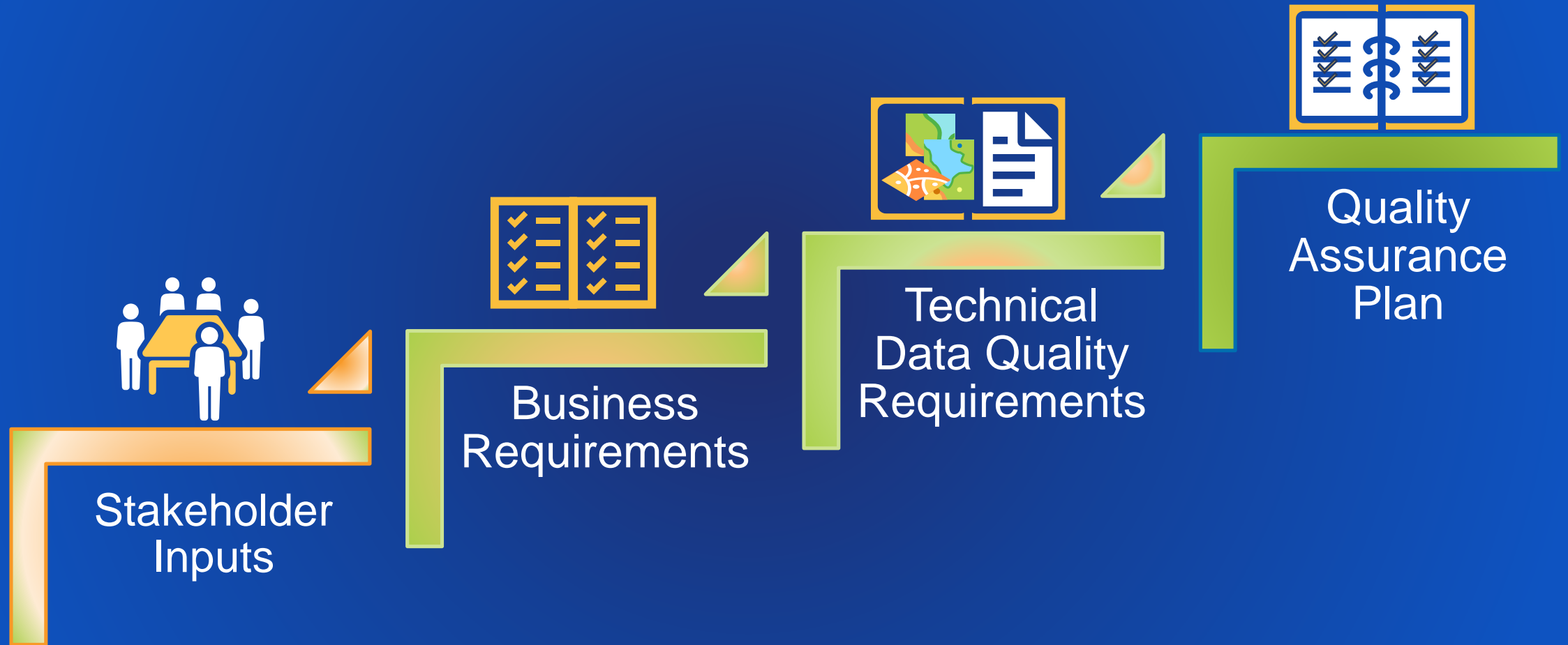
Quality Assurance

- A Seamless Experience



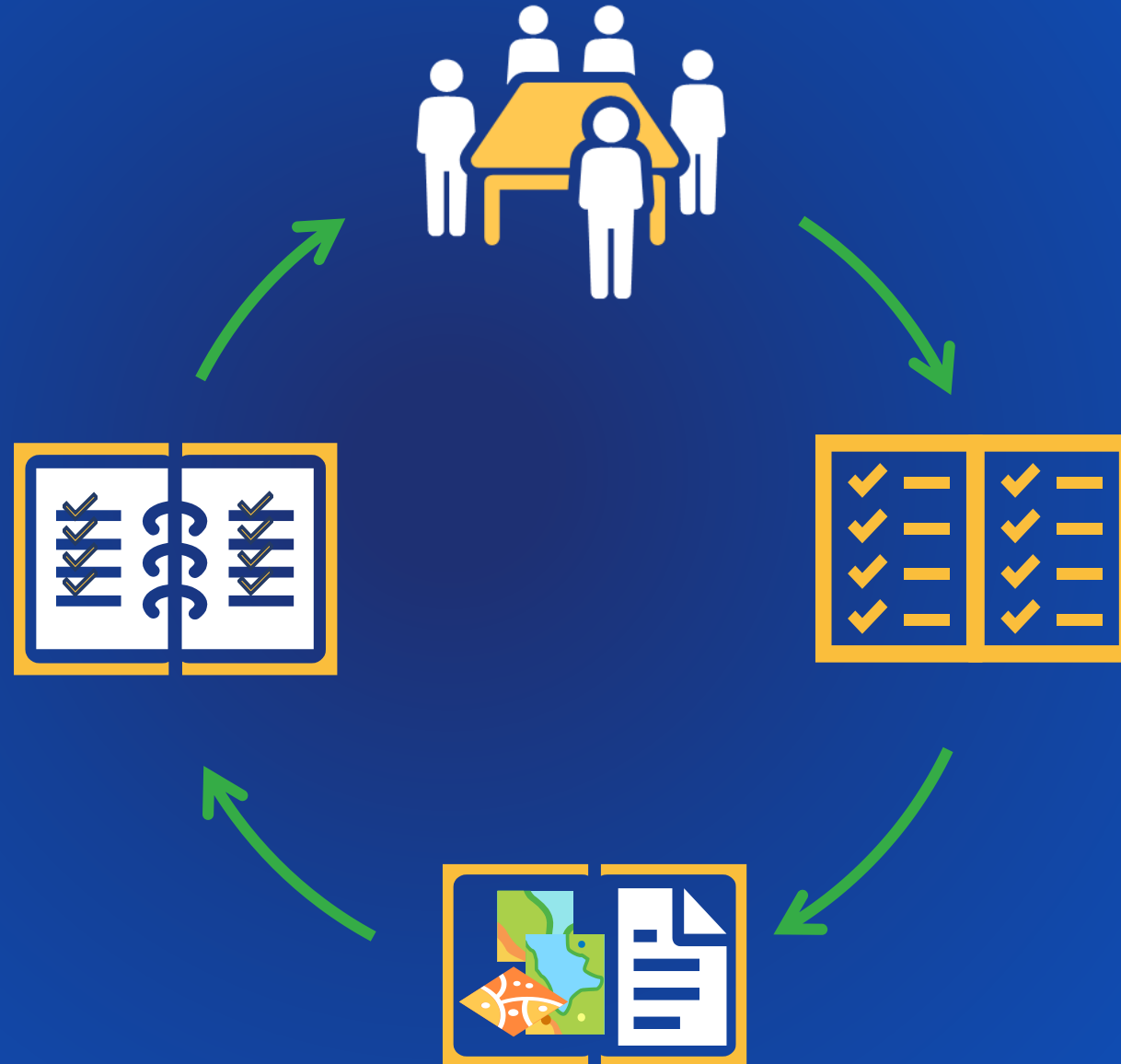
Requirements

Quality Assurance Plan



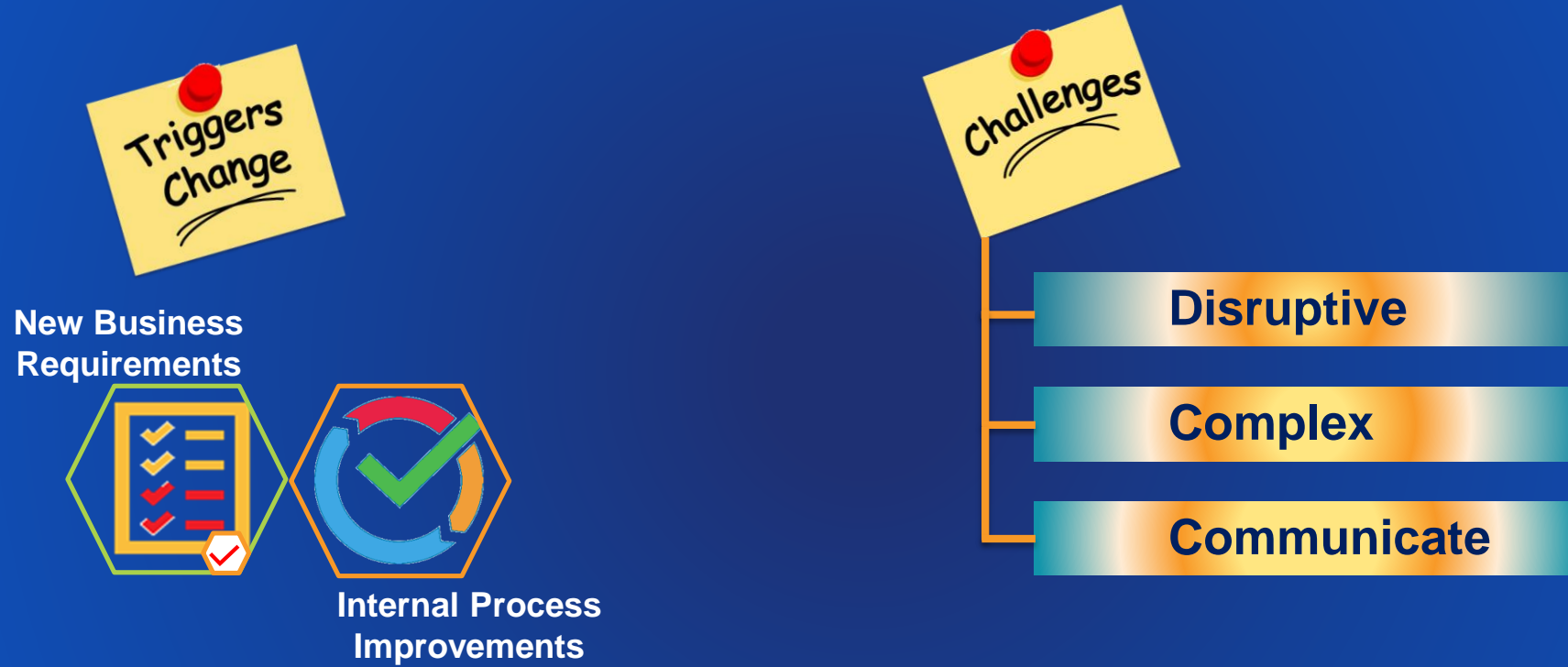
Requirements

Quality Assurance Plan - Cyclic



Requirements

Quality Assurance Plan – Change Management



Attribute Rules - Overview

Quality Assurance with ArcGIS



User defined rules for simple features using Arcade scripting



Ensures data quality during data collection and maintenance



Enforces data integrity

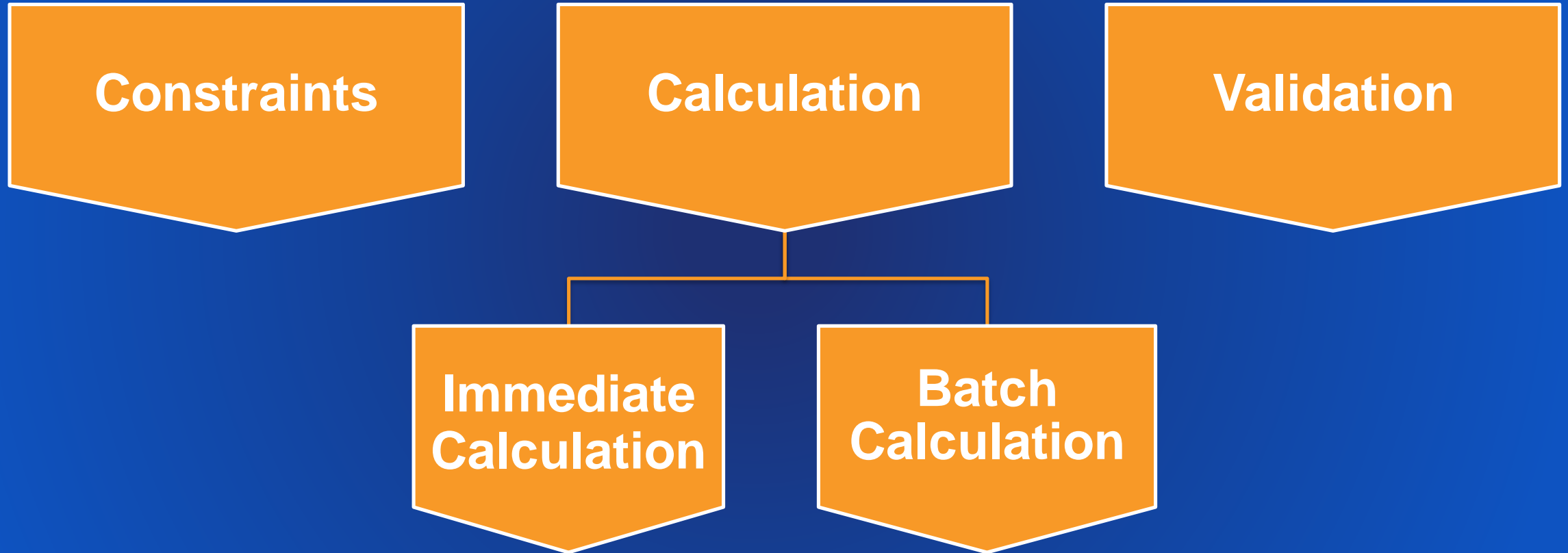


Defined in feature classes or tables



Supported across the ArcGIS System

Attribute Rules - Types



Ready To Use Rules - Overview

Attribute Constraint Rules



Easily Configurable Attribute Rules (no scripting required)



Templated Arcade scripts with parameters



Assess feature's Integrity and geometric properties



Evaluate Spatial relationship across feature classes



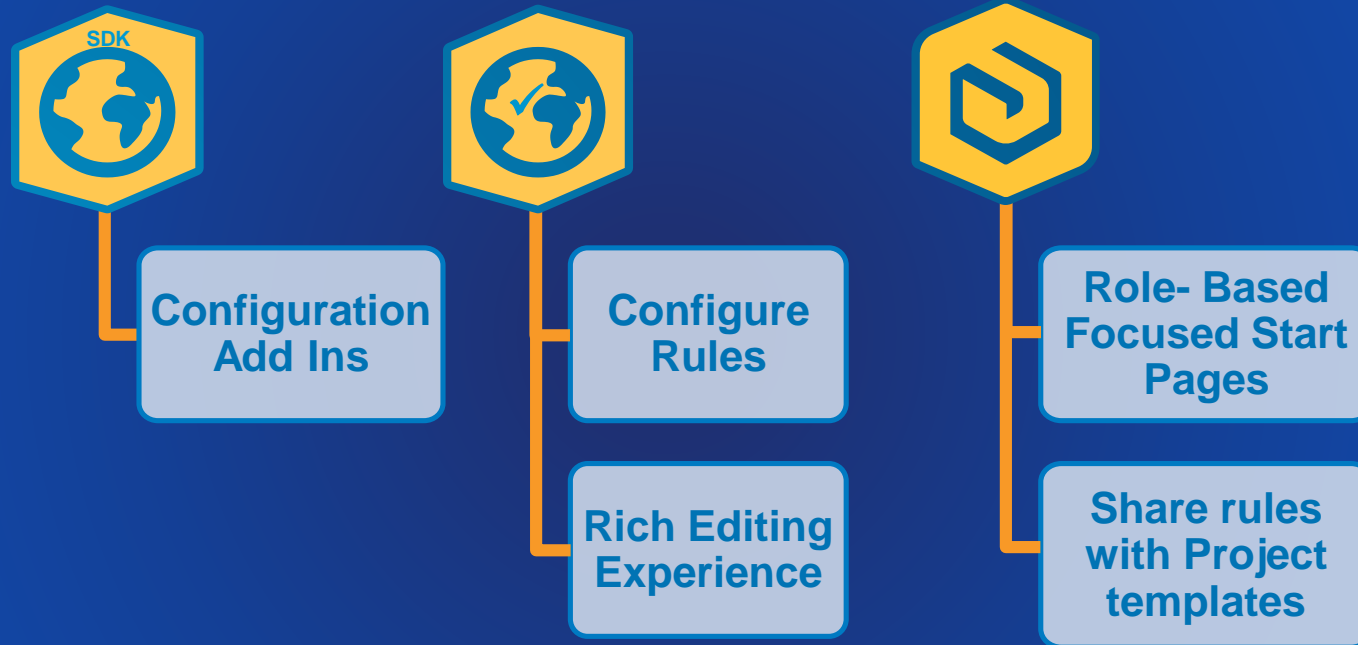
Quality Assurance - Demo

Shankar Chandrasekaran



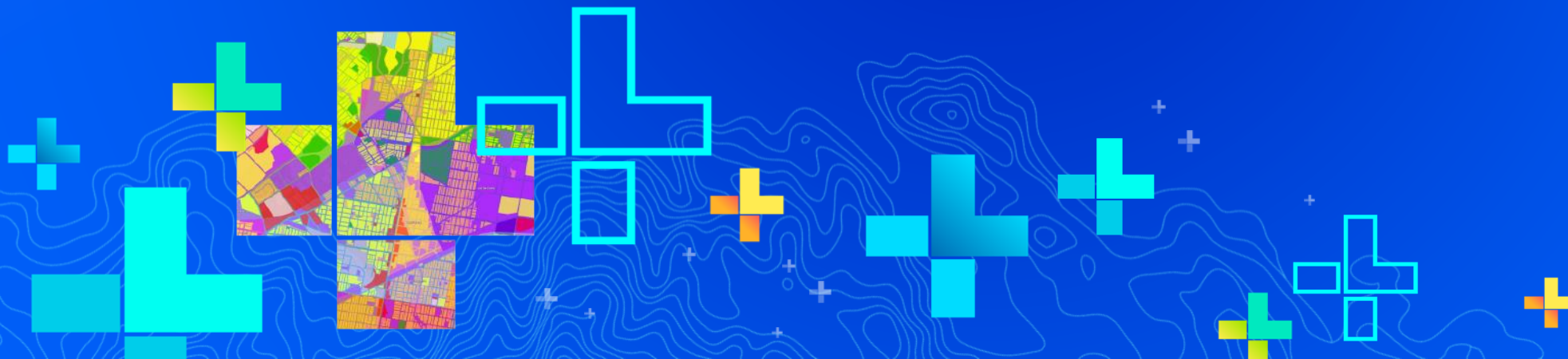
Key Components

Quality Assurance Plan – ArcGIS System tools





Questions ?



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Streamlining Data Collection and Maintenance


Francisco Perez




Streamline Data Collection

Challenges

 Poor Data Quality

 Understanding data quality can be difficult

 Data Validation is time consuming


Solution

Define workflow standards


Identify patterns in the data

Outline an automated process for data validation

Platform

ArcGIS Pro 

ArcGIS Pro/Data Reviewer  

ArcGIS Data Reviewer 

Streamline Data Maintenance

Challenges

 Knowing if deadlines will be met

No consistency in how work is done

Takes too long for staff to become effective



Solution

Define a data maintenance process

Define standard workflows

Define processes to validate & fix data

Technology

ArcGIS Pro



ArcGIS Workflow Manager



Data Reviewer & ArcGIS Pro Tasks



Streamline Data Maintenance Demo- QC Framework

Francisco Perez



QC Framework Demo – Key Setups

1. WMX-Reviewer Integration (Map Level)

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)

The workflow diagram shows the following steps:

- Create Job Version
- Reviewer
- Launch Map
- Test Case Edits
- Fill Out Validation Chart

The 'Browse for Custom Steps' dialog shows the following structure:

- Registered Custom Steps:
 - ArcGISProSteps
 - JTXDesktopSteps
 - JTXSteps
 - ProductionMappingSteps
 - Create Reviewer Session
 - Run Reviewer Batch Job

3. ArcGIS Pro Tasks (Map Level)

The Tasks pane shows the following steps:

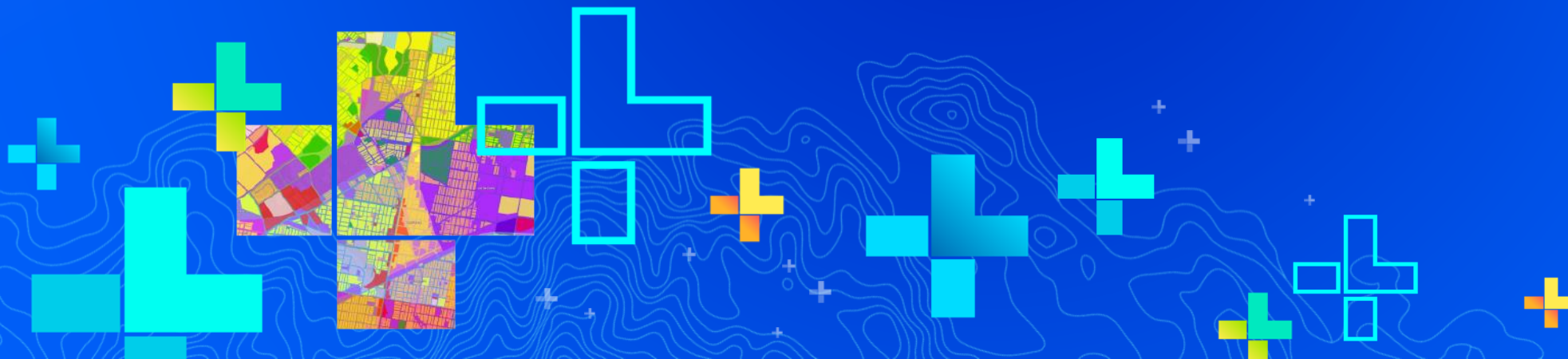
- Append to Source
- Merge

The Task Designer dialog shows the following configuration:

- Step: Append to Source
- General | Actions | Views | Contents
- Set the command or geoprocessing tool for the step
- Append



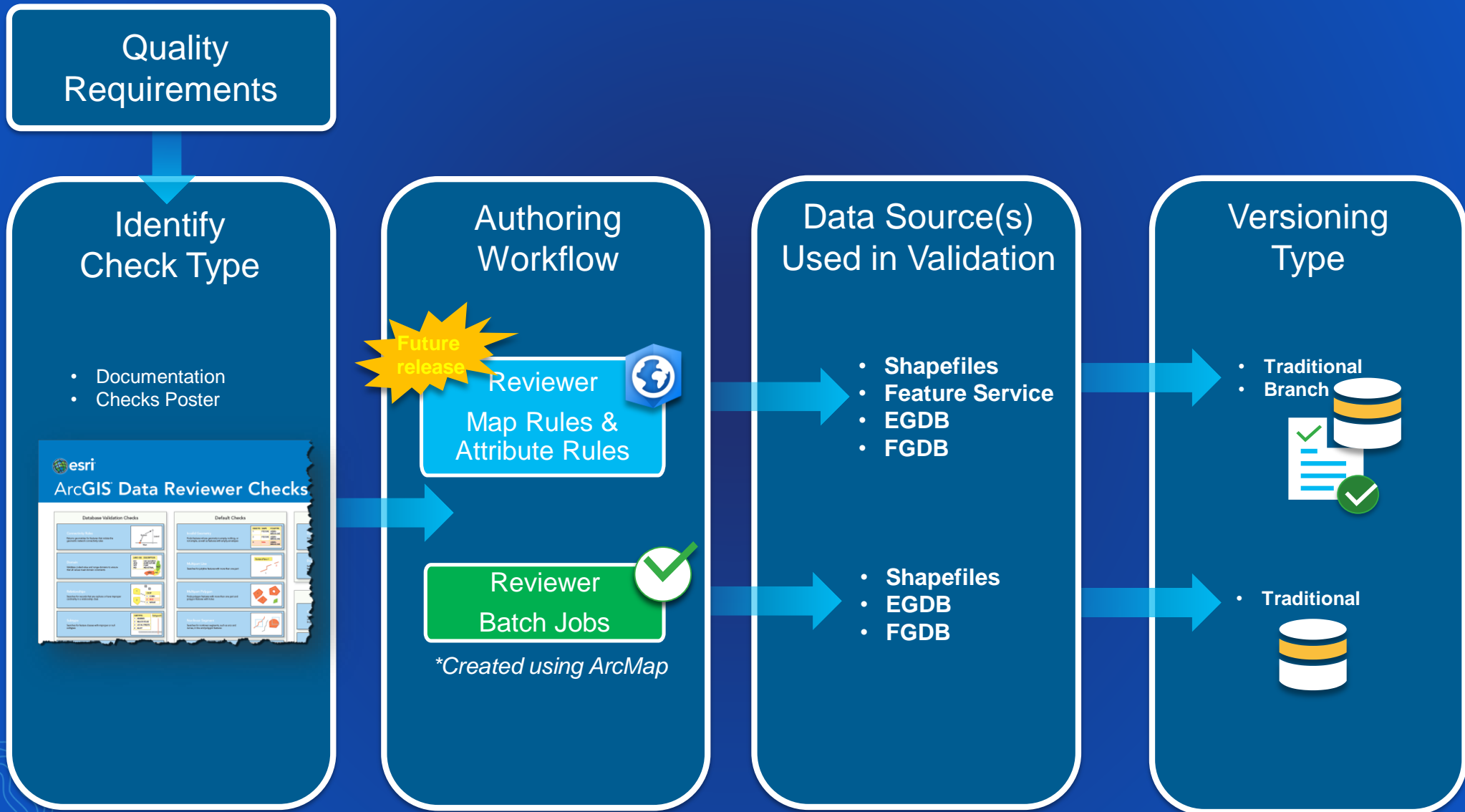
Questions ?



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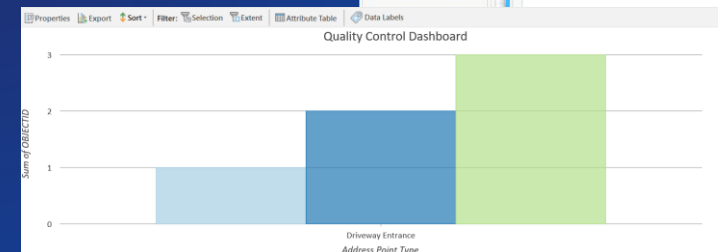
Data Quality Tools for Automated Review



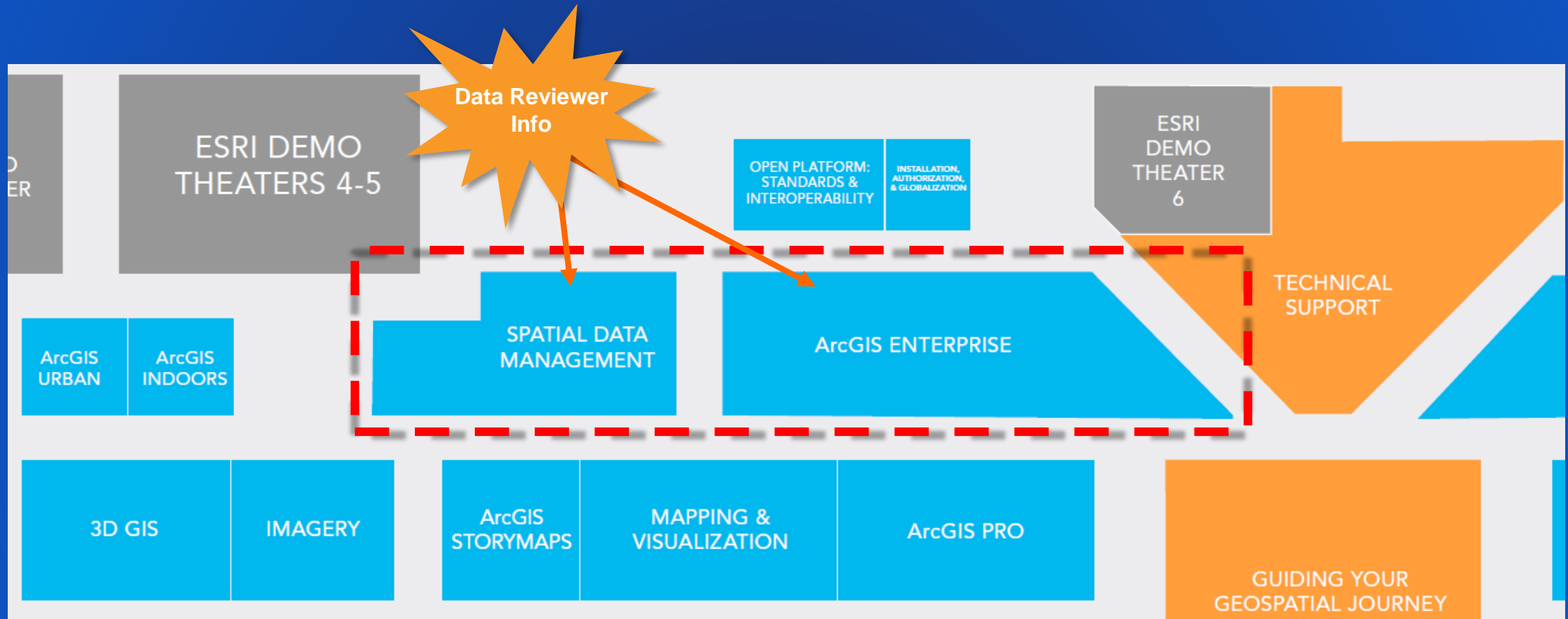
Summary

- Manage Changes to Quality Assurance plan seamlessly
- Streamline data collection and data maintenance process
- Data Quality tools for Automated Review

The screenshot displays the ArcGIS desktop environment. The main window shows a map with various address points and a workflow editor. The workflow editor includes a 'Workflow' section with a 'Descriptive Information' tab and a 'History' tab. The workflow steps are: 'Create Job Version' (orange), 'Reviewer' (green), and 'Launch Map' (red). The 'Address Management' job is currently selected. The 'Catalog' pane on the right shows a project structure with folders for 'Toolsboxes', 'Databases', 'Styles', 'Tasks', 'Folders', 'Reviewer Results', 'Workflows', and 'Locations'. The 'Reviewer Results' folder is expanded, showing a session result for '01_2016'.



See Us Here



Want to learn more?

- Product page

www.esri.com/datareviewer

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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

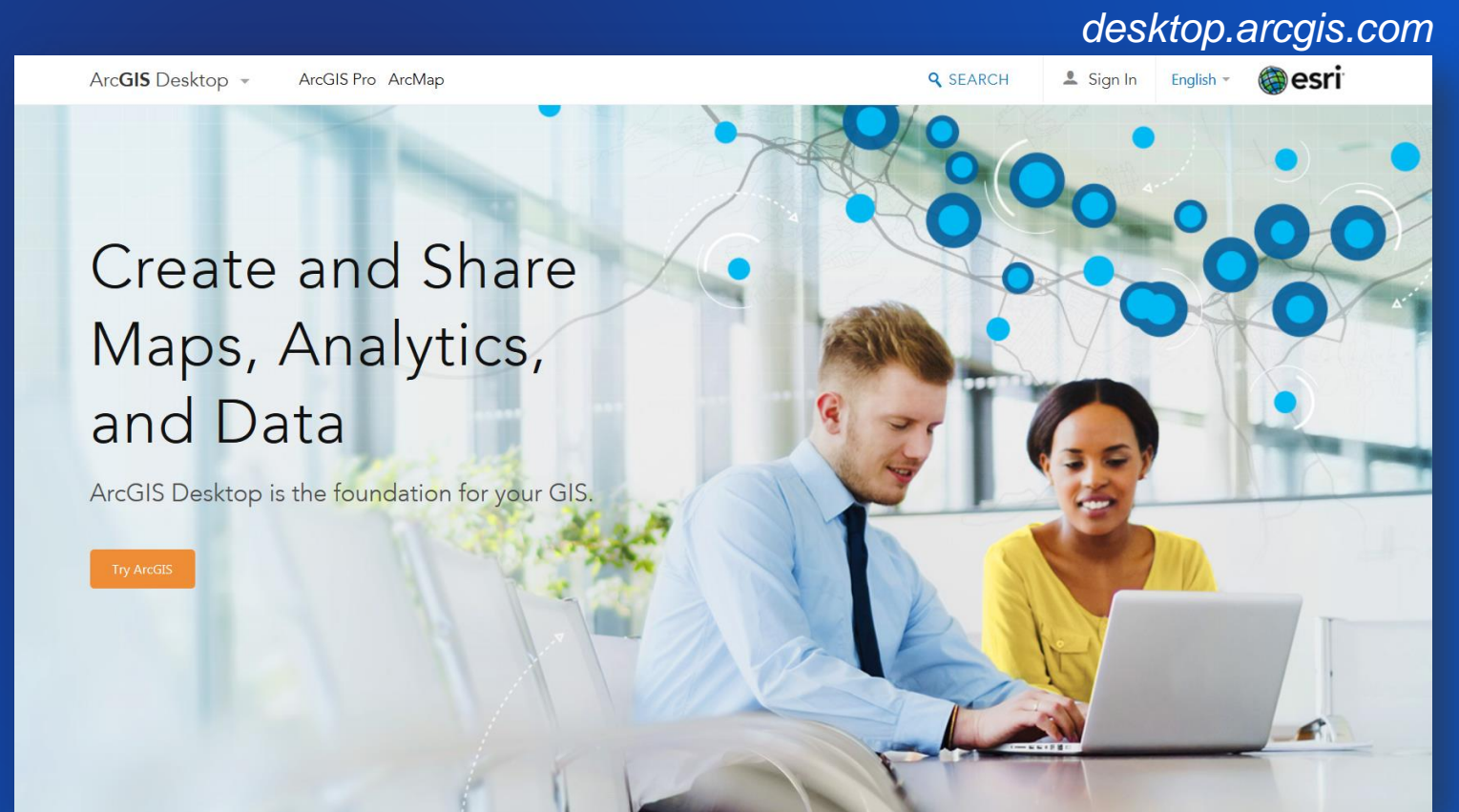
Whether managing resources for a nation or facility assets for a local community, you want to make sure that your data is free of errors. With ArcGIS Data Reviewer, you can make data quality a component of your overall data management strategy.

"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**



Want to learn more?

- **Documentation**
 - **Desktop**
 - **Server**

enterprise.arcgis.com

The screenshot shows the ArcGIS Data Reviewer documentation page. At the top, there is a navigation bar with links for 'ArcGIS Enterprise', 'Portal', 'Server', 'Data Store', and 'Cloud'. On the right side of the navigation bar, there are icons for search, sign in, and language selection (English). The main header area features the title 'Data Reviewer' in a large font, with the subtitle 'Integrate data quality capabilities into your ArcGIS Enterprise workflows.' Below the header, there are 'Home' and 'Help' navigation buttons. A search bar is prominently displayed in the center, containing the text 'Search ArcGIS Data Reviewer for Server help'. Below the search bar, there is a horizontal menu with links for 'Released Version: 10.6.1 (June 2018)', 'What's new', 'System requirements', 'Installation guide', 'Template gallery', and 'Help archive: 10.3'. The 'Get Started' section is divided into four columns. The first column, 'Find Dangles', includes a diagram of a network with a red dot indicating a dangle. The second column, 'Monotonicity', includes a diagram of a network with red dots indicating non-monotonicity. The third column, 'Deploy data quality services', includes a diagram of a network with red dots indicating errors. The fourth column, 'Manage quality feedback', includes a screenshot of a user interface showing a map with red dots and a feedback form. The fifth column, 'Report data quality', includes a screenshot of a dashboard showing a pie chart and a map with red dots. The sixth column, 'Use ArcGIS REST or JavaScript APIs', includes a code icon and text about interacting with the Data Reviewer for Server.

ArcGIS Enterprise Portal Server Data Store Cloud

Search Sign In English

Data Reviewer

Integrate data quality capabilities into your ArcGIS Enterprise workflows.

Home Help

Search ArcGIS Data Reviewer for Server help

Released Version: 10.6.1 (June 2018) | What's new | System requirements | Installation guide | Template gallery | Help archive: 10.3


Get Started

- Find Dangles**
Find polygons feature with vertices that are within a user-defined tolerance but not connected to other polygons or polygon features.
- Monotonicity**
Find polygons with vertices that are not strictly increasing or decreasing in value or are trending based on specified conditions.
- Deploy data quality services**
Automatically detect errors in your data using out-of-the-box validation checks.
- Manage quality feedback**
Supplement out-of-the-box validation checks with simple-to-use visual review.
- Report data quality**
Monitor data health and identify error trends in quality dashboards. Reduce risk.
- Use ArcGIS REST or JavaScript APIs**
Interact with ArcGIS Data Reviewer for

Want to learn more?

- **Documentation**
 - Desktop
 - Server
- **Training**

<http://esriurl.com/15503>



The screenshot shows the Esri Academy interface. At the top, there is a dark header with a home icon, the text 'Esri Academy', and a hamburger menu icon. Below the header is a teal banner with the text 'Learning Plan' and 'Working with ArcGIS Data Reviewer'. Underneath the banner, it says 'Created by Esri on June 27, 2019'. At the bottom of the banner, there is a blue 'Enroll' button, a progress indicator with five circles and '(0)', and icons for a heart, a document, a group of people, and a share arrow.

Want to learn more?

- **Documentation**
 - Desktop
 - Server
- **Training**
- **GeoNet Community**

<http://esriurl.com/15504>



+
+
+ Food for thought as we conclude..

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

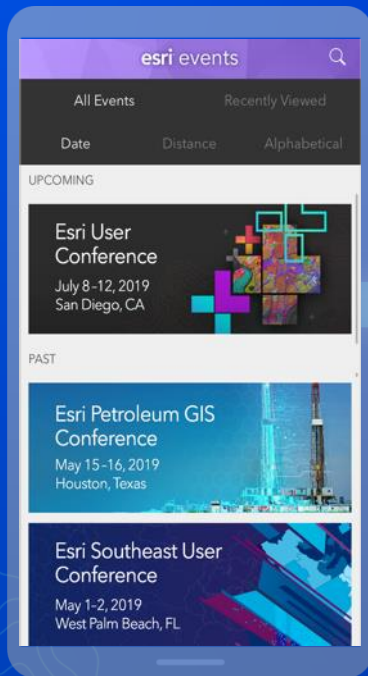
The accuracy of "WHERE" will foster
*better decisions in the ever changing
world....*

More to come Adios

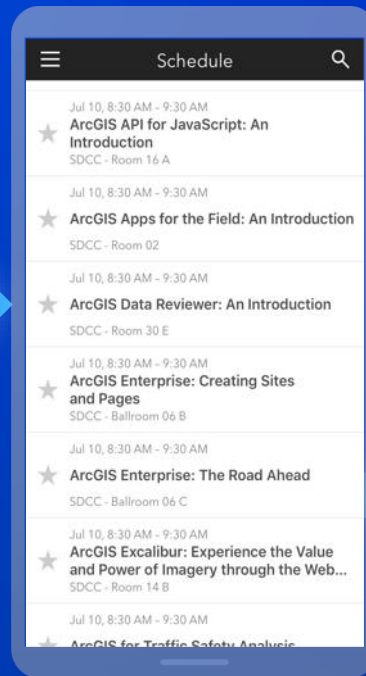


Please Share Your Feedback in the App

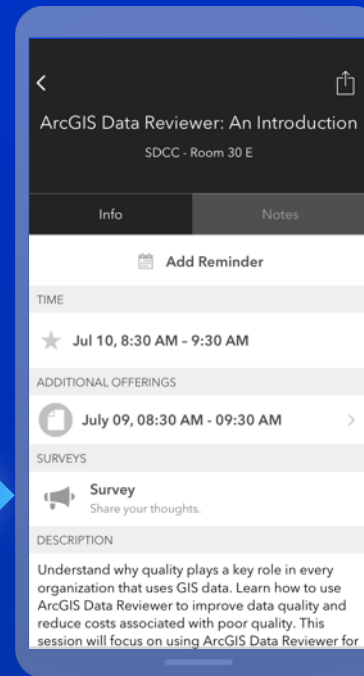
Download the Esri Events app and find your event



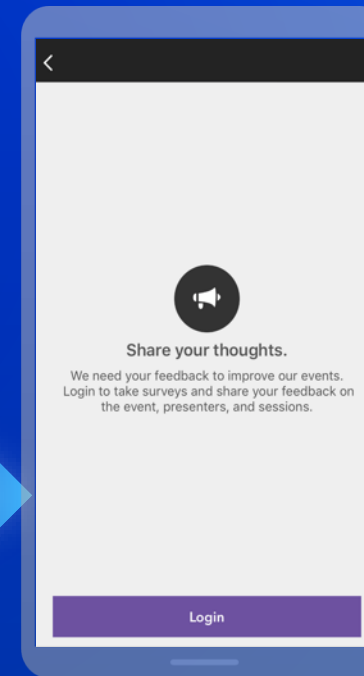
Select the session you attended



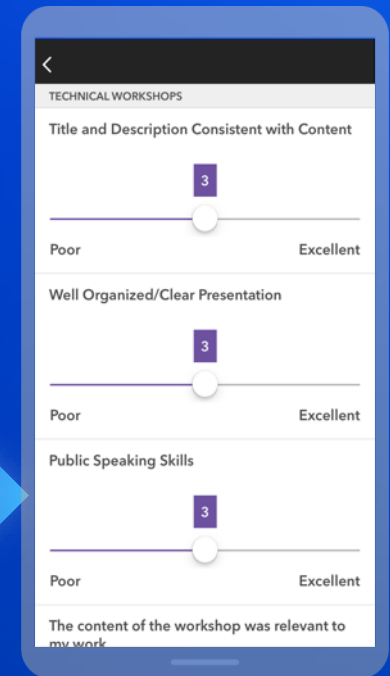
Scroll down to "Survey"



Log in to access the survey

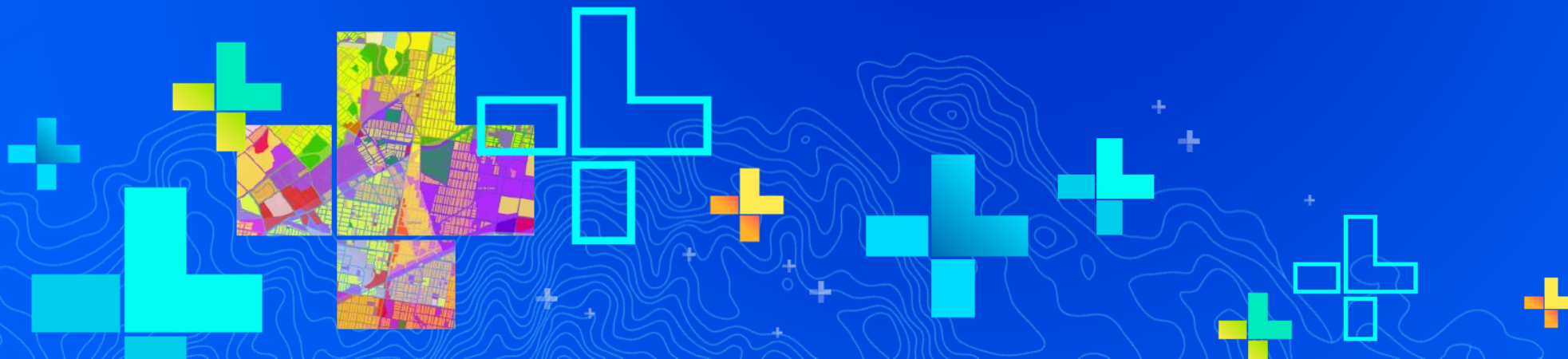


Complete the survey and select "Submit"





Questions ?



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