



Washington D.C.  
Chapter

**AGA DC CHAPTER TRAINING**

MARCH 30, 2022 | 9:15-10:05AM

# Emerging Technologies for Internal Controls

Training Sponsored By



# Speakers



*Speaker*

**Krystal Simpson**

Department of State  
Bureau of Diplomatic Security  
Office of the Comptroller  
Manager



*Speaker*

**Bob Pucci**

Tennessee Department of  
Finance & Administration  
Executive Director –  
Intelligent Automation



*Speaker*

**Brock Lambert**

EY  
Sr. Manager – Intelligent  
Automation and Digital  
Transformation



*Moderator*

**Paul Marshall**

MIL Corporation  
Vice President

# Agenda

- Internal Control Tools at Diplomatic Security
- RPA at the State of Tennessee
- Q&A

# Internal Control Tools at Diplomatic Security



*Speaker*

**Krystal Simpson**

Department of State  
Bureau of Diplomatic Security  
Office of the Comptroller  
Manager

# About Diplomatic Security



**Our Vision**  
Be **an Agile and Proactive Intelligence-led Security and Law Enforcement Organization** to Further Diplomacy **Around the World**

**Our Mission**  
**Lead Worldwide Security and Law Enforcement Efforts to Advance U.S. Foreign Policy and Safeguard National Security Interests**

### Core Functions

-  Protect Life and Property
-  Train and Equip
-  Ensure Security of Information and Technology Infrastructure
-  Provide Integrated Management Infrastructure Services
-  Conduct Investigations and Investigative Activities
-  Identify, Analyze, and Monitor Threats

# DS Comptroller – Audit Activities

- Liaison for all DS audit requests (PBCs, Invoice Audits, OIG)
- Internal control reviews
- Audit finding remediation
- Unliquidated Obligations (ULO) “Audit”

# Technologies for Audit and Internal Control

- DS has implemented several tools to enhance audit support and internal control functions
  - Data Visualization/Dashboards
  - Robotic Process Automation (RPA)
  - Low-code apps – MS Dynamics and PowerApps

# Poll #1: Are you utilizing RPA for internal control/audit?

1. Yes
2. No
3. Looking into it
4. Don't think it's feasible



# Dashboards – Audit Requests

- Utilize PowerBI dashboard posted on MS 365 SharePoint site
- Tracks all DS audit requests
  - A-123
  - External Audit PBCs
  - Quarterly Improper Payment/Invoice Audit
  - Financial Reporting Data Calls
  - OIG and other audits

Last Refreshed  
3/23/2022 12:04:41 AM

# Audit Dashboard



Dir/Office All FY of Requests 2022 Request Category All Status\* All \*) Status filter only affects # of Requests by Category & Status metric and Detail Table

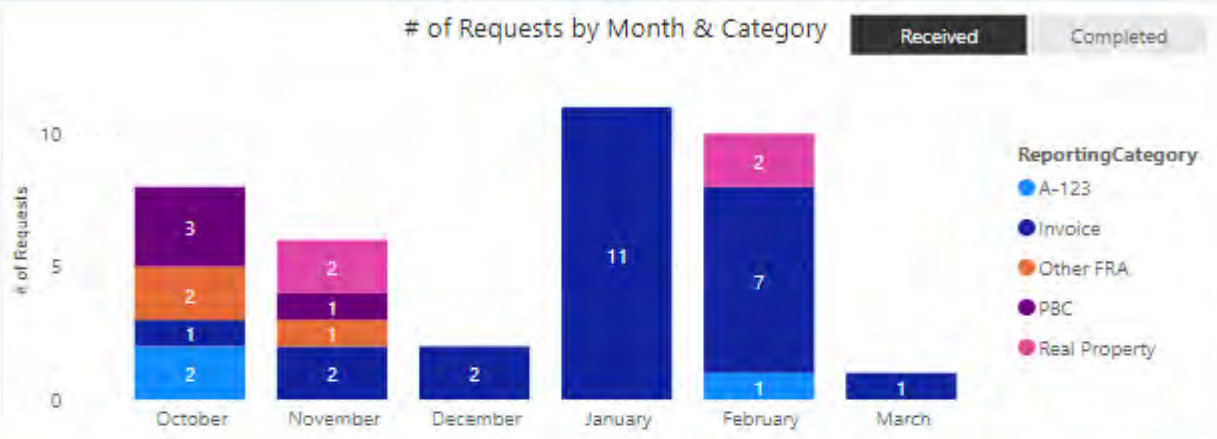
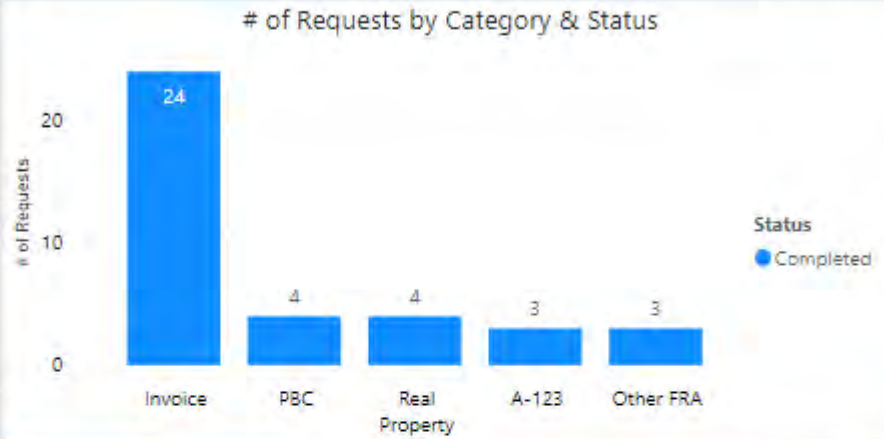
Requests Received YTD  
**38**

Requests Completed YTD  
**38**

Requests Received Current Month  
\*KPI is comparing to last month  
**1**

Requests Completed Current Month  
\*KPI is comparing to last month  
**4**

# of NFRs  
**0**



### Table Text Search

Request Subject  
Search

- A-123 - FY21 Q4 Data ...
- FRA Request - PEGASY...
- FRA Request for Extern...
- FY 21 Q2 Sample 7189
- FY 21 Q4 Sample 7461

Request Reference  
Search

- A-123 FY21 Testing
- FY 21 Q1 Improper Pay...
- FY21 External Audit of I...
- FY21 Q4 Data Call for ...
- FY22 A-123 Cycle Mem...

Request Subject	Request Reference	RequestDate	Due Date	Category	Priority	Status	DS
FY22 A-123 Cycle Memo Updates	FY22 A-123 Cycle Memo Updates	2/24/2022	3/24/2022	A-123	(2) Normal	Completed	
FY21 Q3 Sample 7429	Sample 7429	3/8/2022	3/15/2022	Invoice	(2) Normal	Completed	
FY21 Q4 Sample 7492	Sample 7492	2/24/2022	3/3/2022	Invoice	(2) Normal	Completed	
FY22 Q2 DS Overseas Real Property Data Call	FY22 Q2 DS Overseas Real Property Data Call	2/1/2022	3/1/2022	Real Property	(2) Normal	Completed	
FY21 Q4 Sample 7488	Sample 7488	2/16/2022	2/23/2022	Invoice	(2) Normal	Completed	
FY21 Q3 Sample 7383	Sample 7383	2/11/2022	2/18/2022	Invoice	(2) Normal	Completed	
FY21 Q3 Sample 7351	Sample 7351	2/7/2022	2/14/2022	Invoice	(2) Normal	Completed	
FY21 Q3 Sample 7371	Sample 7371	2/7/2022	2/14/2022	Invoice	(2) Normal	Completed	
FY21 Q3 Sample 7380	Sample 7380	2/7/2022	2/11/2022	Invoice	(2) Normal	Completed	
FY22 Q2 Domestic Real Property	FY22 Q2 Domestic Real Property	2/7/2022	2/10/2022	Real Property	(2) Normal	Completed	
FY 21 Q4 Sample 7461	Sample 7461	2/3/2022	2/10/2022	Invoice	(2) Normal	Completed	
FY21 Q1 Improper Payment Summary of Findings	FY 21 Q1 Improper Payment Summary of Findings	1/24/2022	1/31/2022	Invoice	(1) High	Completed	
FY21 Q3 Sample 7348	Sample 7348	1/21/2022	1/27/2022	Invoice	(2) Normal	Completed	
FY21 Q1 Sample 7306	Sample 7306	1/19/2022	1/26/2022	Invoice	(2) Normal	Completed	

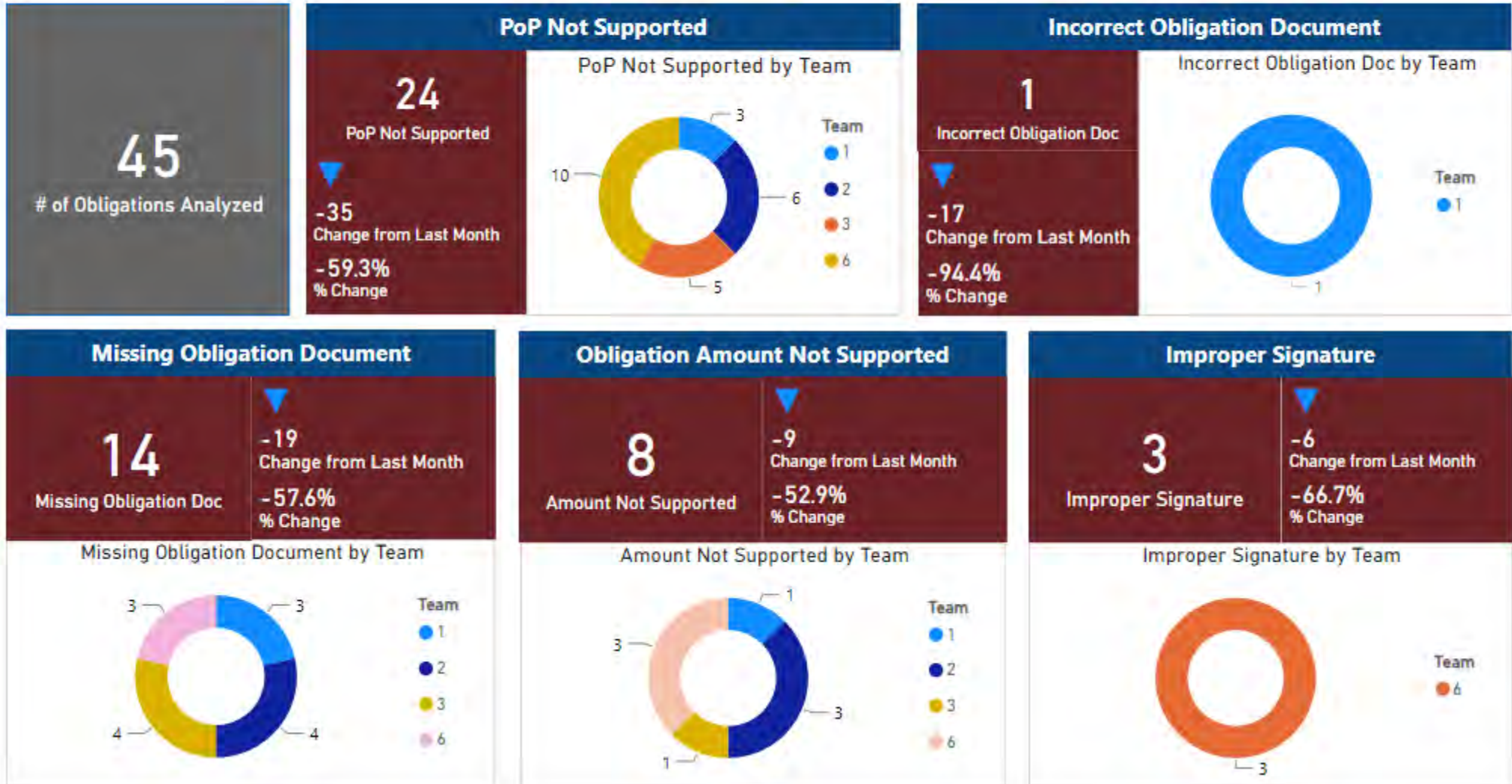
# Dashboards – Internal Controls: Obligations Review

- Perform monthly review of obligating documents
- Dashboard the results of tests at Summary, Detail and Trend levels
- Share dashboard with staff showing findings by user to encourage improvements and decrease numbers of exceptions

Dashboard - Miscellaneous Obligations  
Summary View

Calendar Year 2021 Period 6

- Show results of 5 tests by Team that enters obligations
- Shows change from prior month



Unit Dashboard - Miscellaneous Obligations  
Detail View

Fiscal Year 2021 Period 6

- Details findings by User Name
- Shows exception by document type
- Provides details of each exception

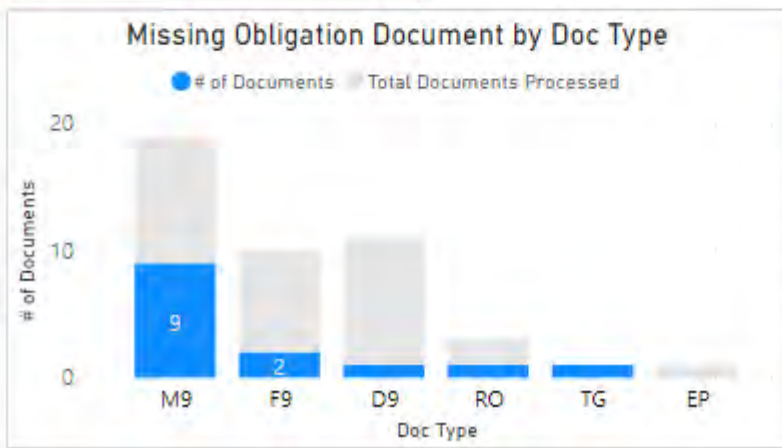
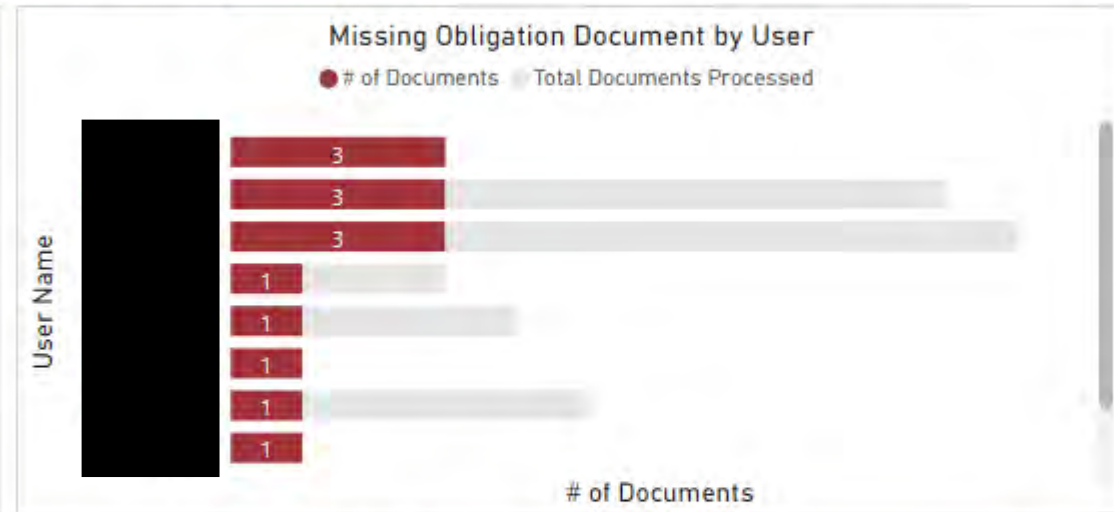
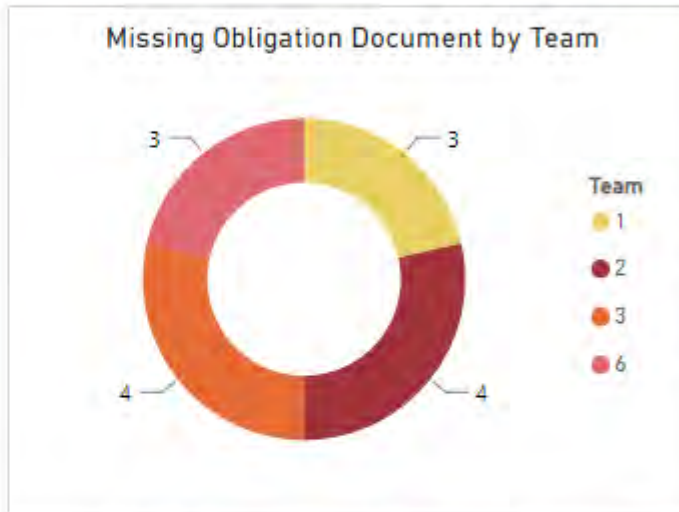
Improper Signature Incorrect Obligation Document **Missing Obligation Document** Obligation Amount Not Supported PoP Not Supported

**Missing Obligation Document**

**14**  
# of Documents

**-19**  
Change from Last Month

**-57.6%**  
% Change



Doc Type	Doc Number	Item Line Num	Actg Line Num	BBFY	EBFY	Fund Code	Vendor Name	ULO Am <sub>nt</sub>
D9	106921D8560		1	2021	NONE	19__X0113000T	[Redacted]	[Redacted]
F9	106920M2121		1	2020	NONE	19__X0113000H	[Redacted]	[Redacted]
F9	10692199999		1	2021	NONE	19__X0113000T	[Redacted]	[Redacted]
M9	106920F1975		1	2020	NONE	19__X0113000H	[Redacted]	[Redacted]
M9	106920R1069		1	2020	NONE	19__00113004R	[Redacted]	[Redacted]
M9	1069213C104		1	2021	NONE	19__X0113000T	[Redacted]	[Redacted]
M9	106921B0835		1	2021	NONE	19__X0113000H	[Redacted]	[Redacted]
M9	106921B1189		1	2021	NONE	19__X0113000H	[Redacted]	[Redacted]
M9	106921B1426		1	2021	NONE	19__X0113000H	[Redacted]	[Redacted]
M9	10699B0512		1	2009	NONE	19__X0113000H	[Redacted]	[Redacted]
M9	204821B0015		1	2021	NONE	19__X83400000	[Redacted]	[Redacted]

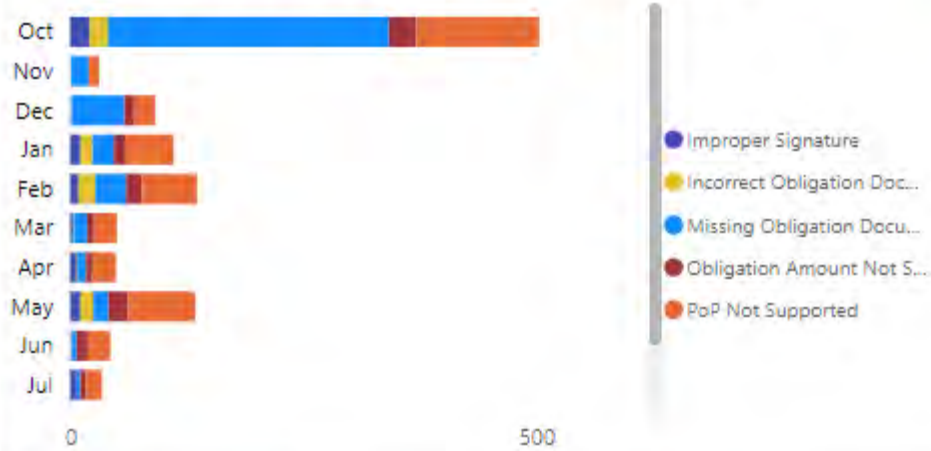
Dashboard - Miscellaneous Obligations  
Trends

21 Team All User All

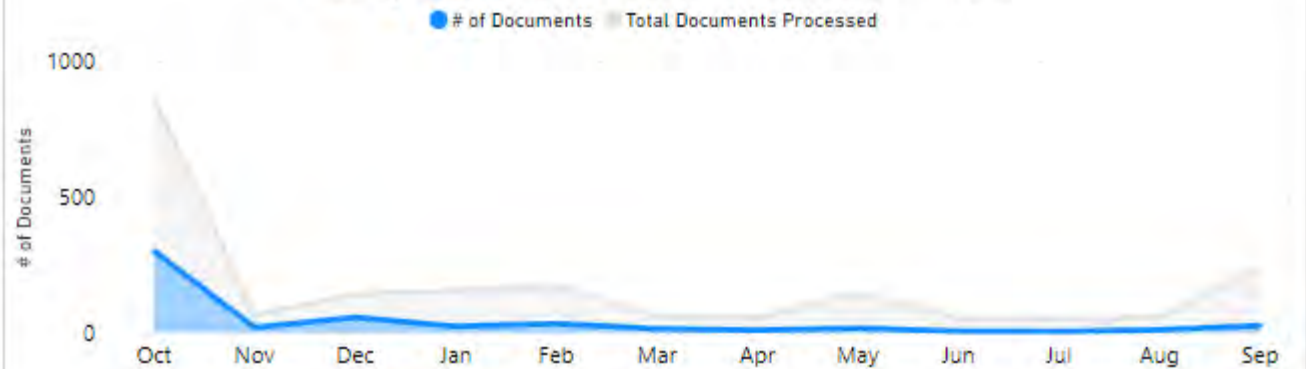
Improper Signature Incorrect Obligation Document **Missing Obligation Document** Obligation Amount Not Supported PoP Not Supported

- Displays exception trends by Team and User
- Encourages staff to reduce number of exceptions

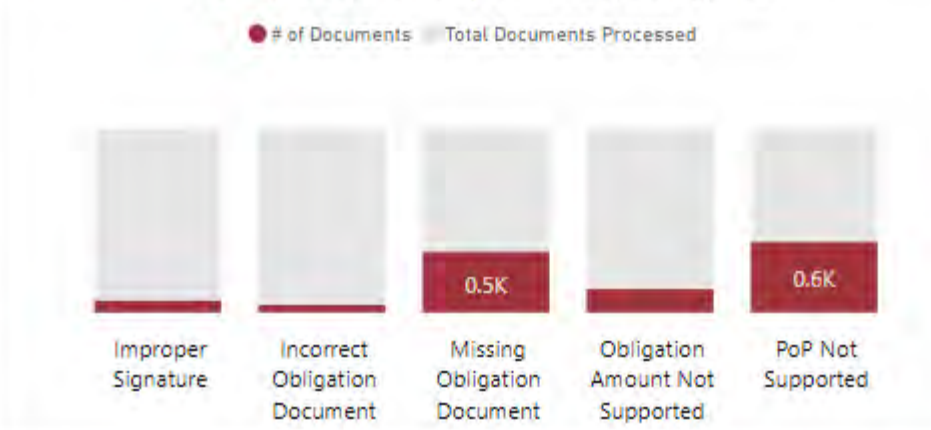
# of Documents by Month and Audit Test Categories



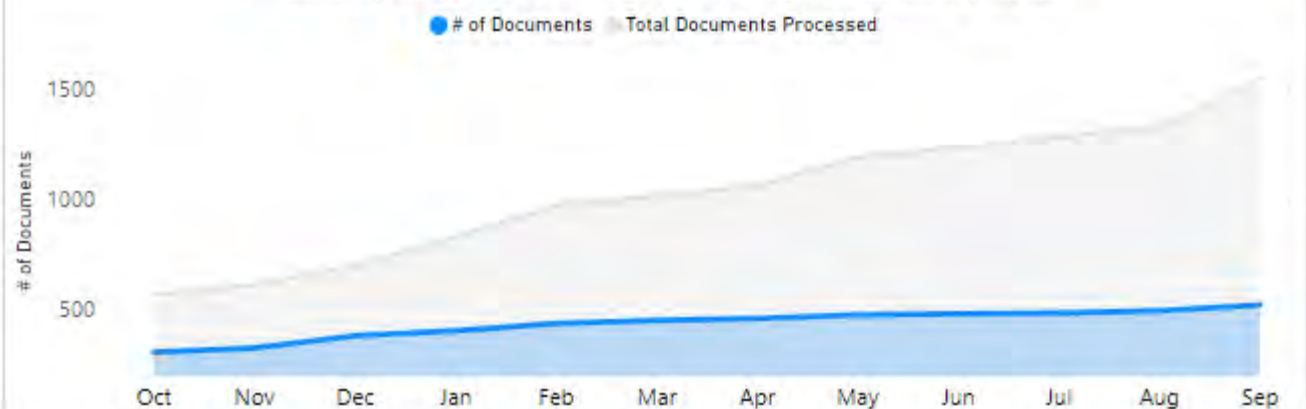
Missing Obligation Document - Month-to-Month Trend



YTD # of Documents by Audit Test Categories



Missing Obligation Document - YTD Month-to-Month Trend



# Obligations Review – Envisioned Enhancements

- RPA to pull all obligating docs from financial system and populate in sample folders
- AI/ICR: Exploring AI/intelligent character recognition (ICR) to “read” documents as a person would to support audits
  - ICR would be able to verify signatures, dates, amounts, and even scope of contracts and obligating documents

# RPA – Internal Controls: Capitalized Equipment

- Perform monthly review of all newly purchased capital equipment based on prior year audit findings
- Use RPA to automate testing and compare 100% of data across three systems
  - GFMS – Financial system of record, G/L
  - ILMS – Asset system of record
  - CMMS – DS equipment procurement and management system

## Envisioned Enhancements

- Dashboards in progress
- Further bots to test disposals, transfers and documentation

Quarterly Analysis - Baseline				
Scope:	All capital security Equipment (\$25K or greater)			
Period:	FY 22 Period 3 analysis - December 2021			
1. CMMS to ILMS to GFMS				
TEST	YES	% Match	NO	% Exception
TEST 1: Asset Exists in All 3 Systems?	55	87%	8	13%
TEST 2: Location Matches in All 3 Systems?	51	81%	12	19%
TEST 3: Serial # Matches in All 3 Systems?	55	87%	8	13%
TEST 4: Acq/Creation Date Matches in All 3 Systems?	55	87%	8	13%
TEST 5: In Serv/Creation Date Matches in All 3 Systems?	55	87%	8	13%
TEST 6: Asset Value Matches in All 3 Systems?	52	83%	11	17%
2. ILMS to CMMS to GFMS				
TEST	YES	% Match	NO	% Exception
TEST 1: Asset Exists in All 3 Systems?	55	100%	0	0%
TEST 2: Asset Value Matches in All 3 Systems?	52	95%	3	5%
TEST 3: Serial # Matches in All 3 Systems?	55	100%	0	0%
TEST 4: Location Matches in All 3 Systems?	51	93%	4	7%
TEST 5: In Serv/Creation Date Matches in All 3 Systems?	55	100%	0	0%
TEST 6: Asset Value Matches in All 3 Systems?	55	100%	0	0%





# Dashboards & RPA – Internal Controls: Invoices

- Perform monthly review of invoice review/approval, compliance with 7-day rule
- Utilize RPA (PowerAutomate) to pull key dates from invoice emails
- Dashboard the results by user and shows trends
- Identifies need for invoice approver/COR training

- Details findings by User Name
- Shows exception trends
- Provides details of each exception

## IPP Invoice Days of Acceptance Dashboard

Tracking Invoices with Number of Days of Acceptance Over 7 Days

**Invoices with Number of Days of Acceptance Over 7 Days**

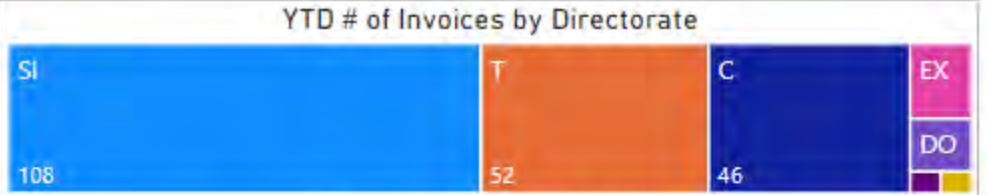
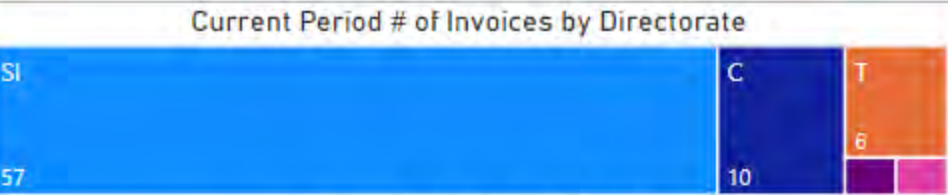
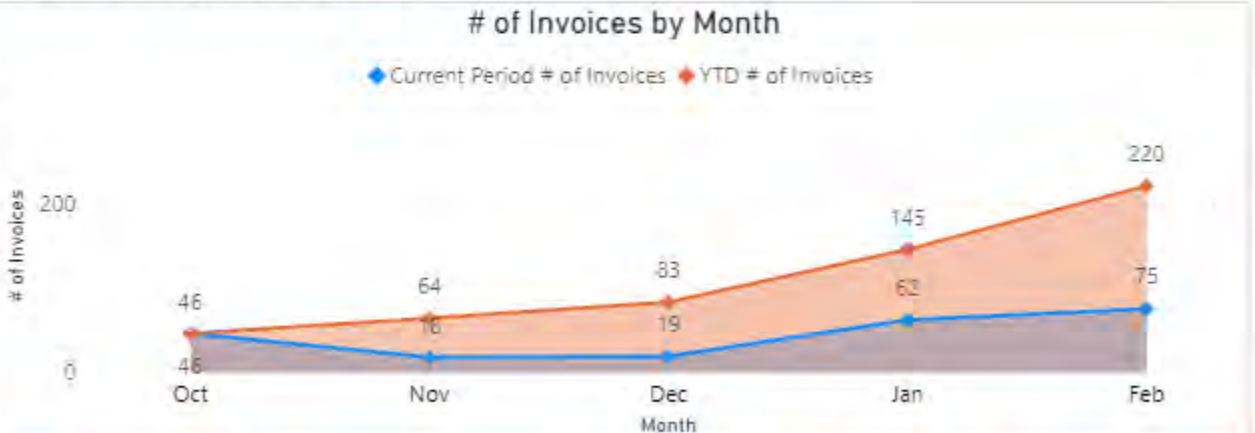
**75**  
# of Invoices

**220**  
YTD # of Invoices

- FY
- 2022
- Period
- 5
- Directorate
- All
- Office
- All
- Level 3 Approver
- All

Invoices with Number of Days of Acceptance Over 7 Days - by Level 3 Approver

Level 3 Approver	# of Invoices	YTD # of Invoices
[Redacted]	35	49
[Redacted]	11	13
[Redacted]	10	36
[Redacted]	5	18
[Redacted]	4	17
[Redacted]	1	3



Current Period Detail Table

Invoice Number	Vendor Name	Amount	Level 3 Approver
011SS21TACMED01SPEAR	[Redacted]	[Redacted]	[Redacted]
10039576	[Redacted]	[Redacted]	[Redacted]
1137	[Redacted]	[Redacted]	[Redacted]
1965	[Redacted]	[Redacted]	[Redacted]
8733	[Redacted]	[Redacted]	[Redacted]
9633	[Redacted]	[Redacted]	[Redacted]
BB26011R	[Redacted]	[Redacted]	[Redacted]
CXL02-5	[Redacted]	[Redacted]	[Redacted]
1316659-5	[Redacted]	[Redacted]	[Redacted]
INV-0000640818	[Redacted]	[Redacted]	[Redacted]

Year-to-Date Detail Table

Invoice Number	Vendor Name	Amount	Level 3 Approver
FY21-0015042R	[Redacted]	[Redacted]	[Redacted]
INV7469	[Redacted]	[Redacted]	[Redacted]
INV22-A009269R	[Redacted]	[Redacted]	[Redacted]
22162	[Redacted]	[Redacted]	[Redacted]
INV7470	[Redacted]	[Redacted]	[Redacted]
1488	[Redacted]	[Redacted]	[Redacted]
INV21-035467	[Redacted]	[Redacted]	[Redacted]
1D037F3628-4	[Redacted]	[Redacted]	[Redacted]
INV267623	[Redacted]	[Redacted]	[Redacted]

# Low-Code Apps – Internal Controls: ULO Audit

- DS developed MS Dynamics app to manage unliquidated obligations – named “DUO”
- App incorporates PowerApps and PowerBI to support monthly ULO management
- Once a year, DS utilizes DUO to perform internal audit of high-risk ULOs to mitigate financial statement audit findings

Process	Priority Chosen	Assignee	Due Date	Description
> ▲ Priority 3 Audit	---	[REDACTED]	10/13/2021	---
> ▲ Priority 3 Audit	---	[REDACTED]	10/16/2021	---
> ▲ POC	---	[REDACTED]	10/3/2021	---
> ▲ Certification	---	[REDACTED]	9/15/2021	Test
> ▲ Certification	---	[REDACTED]	10/21/2021	---
> ▲ Certification	---	[REDACTED]	10/16/2021	---

- DUO app enables comprehensive management of ULOs with dashboards, matrices, forms and workflows
- Provides dashboards, by Directorate, focusing on high-risk, invalid, and cancelling year ULOs
- DUO enables monthly ULO status updates and yearly ULO audit

- DUO resource managers (RM) respond to workflow requests to support high priority ULOs for upcoming audit
- RMs update each ULO status with comments via form view or Excel upload of multiple rows
- RMs can reference PRs deobligating funds and upload documents supporting the ULO status
- Once complete, DS Comptroller reviews and sends data forward to State Comptroller

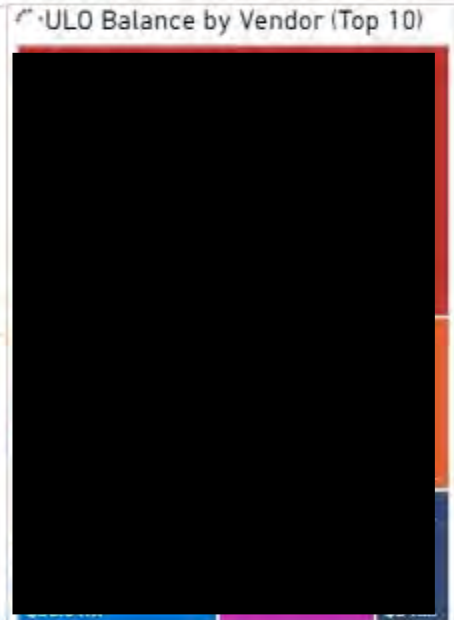
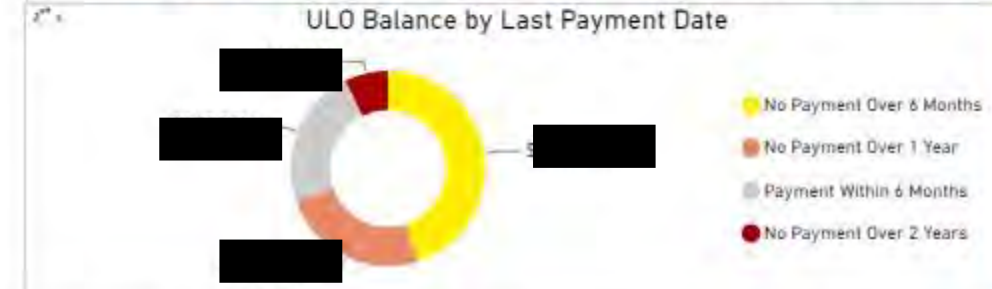
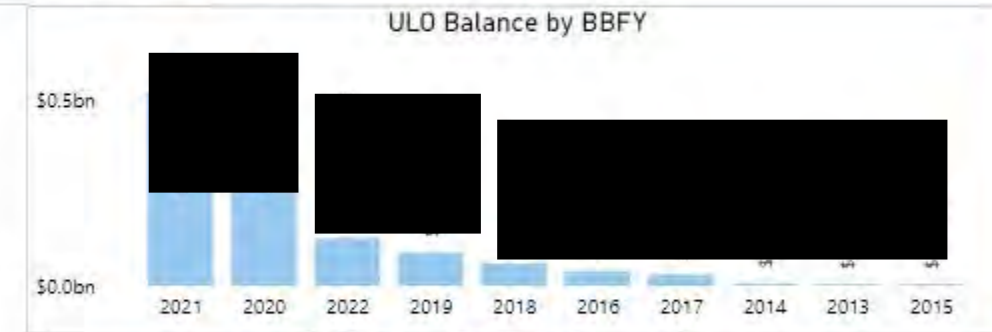
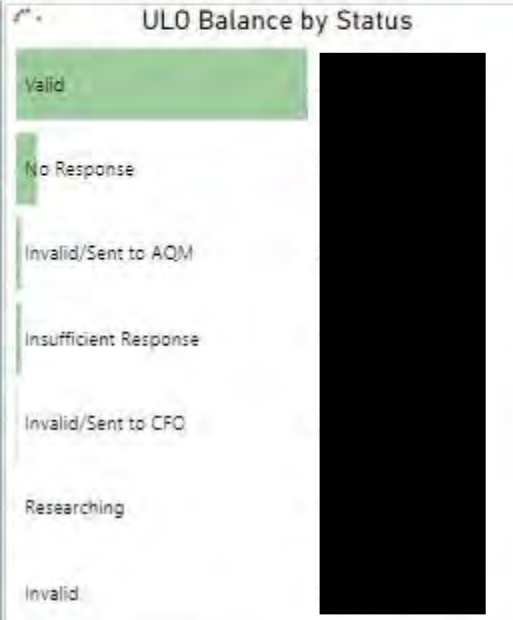


### DS Bureau Managed ULO - High Risk

ULOs over \$100K with last payment dates over 6 months

**Total ULO Balance**  
**1561**  
# of Accounting Lines

- Directorate
- All
- Office
- All
- Appropriation
- All
- BBFY
- All
- Status
- All



Doc Type	Doc Number	Itemized Line	Acctg Line	BBFY	EBFY	Vendor	Original Oblig Amount	ULO Balance	Status	PR #
76B	10692000048	1		2020					Invalid	
76B	10692000085	1		2020					Valid	
		1		2020					Valid	
		1		2020					Valid	
		1		2020					Valid	
		1		2020					No Response	
		1		2021					Valid	
		1		2021					Valid	
		1		2021					Researching	
		1		2021					Researching	
		1		2021					Valid	
		1		2021					Valid	

- DUO incorporates dashboards to visualize and quickly identify high-risk ULOs
- Can drill down by vendor, Directorate, last payment date, and many other filters

# Envisioned Enhancements/Next Steps

- AI/ICR: Exploring AI/intelligent character recognition (ICR) to “read” documents as a person would to support audits
  - ICR would be able to verify signatures, dates, amounts, and even scope of contracts and obligating documents
- Further RPA
  - Bots to pull supporting docs from systems of record (contracts, IAAs, RWAs, invoices, misc obligating docs, etc.)
  - Bots to automatically create sample folders for both PBC requests and internal audits, and prepopulate with supporting documentation
  - Bots to perform further tests and reconciliations of 100% of data!

# Poll #2: What Emerging Tech for Internal Controls Do You Find Most Exciting?

1. RPA
2. AI/ML
3. Low-Code Apps
4. Blockchain

# Agenda

- Internal Control Tools at Diplomatic Security
- RPA at the State of Tennessee
- Q&A



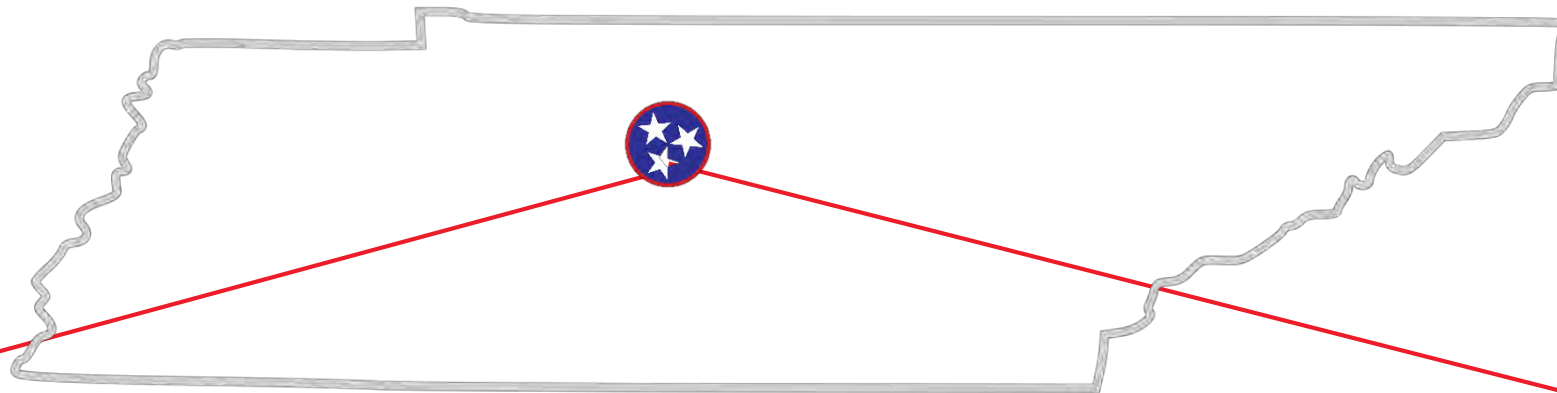
# Leveraging RPA Statewide

- Intelligent Automation Tools are used Statewide to implement Process Automation. Initially starting with Finance and Administration Agency.
  - This includes the following Divisions are related to Financial Operations:
    - Accounts
    - Budget
    - Administration
    - Fiscal Office
    - Internal Audit
- We have developed multiple bots that are used across 20-54 Agency Divisions. Providing an unprecedented economies of scale and savings. These bots were around Accounts, Project Planning, HR, and Business Administration.
- To support Shared Services, Process Candidates are Standardized across organizations, Optimized leveraging Lean Six Sigma, then Automated.

# Process Automation Program Overview

## High Visibility & Impact across the State

State of TN is establishing a “best-in-class” automation program in Tennessee, setting the standard to serve **all 23 State Agencies**. This Process Automation



### State of Tennessee Agencies

- |                                  |   |                                 |
|----------------------------------|---|---------------------------------|
| Agriculture                      | Financial Institutions                    | Mental Health & Substance Abuse |
| Children's Services              | General Services                          | Military                        |
| Commerce & Insurance             | Health                                    | Revenue                         |
| Correction                       | TennCare                                  | Safety & Homeland Security      |
| Economic & Community Development | Human Resources                           | Tourist Development             |
| Education                        | Human Services                            | Transportation                  |
| Environment & Conservation       | Intellectual & Developmental Disabilities | Veterans Services               |
| Finance & Administration         | Labor and Workforce Development           |                                 |

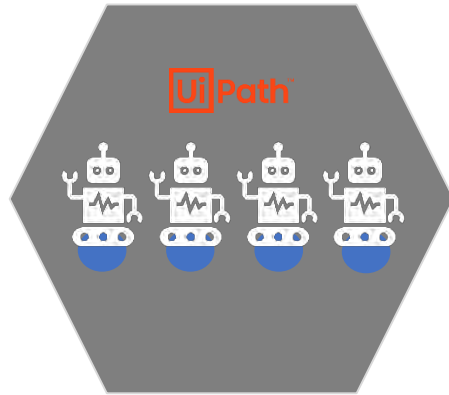
# Progression Towards Intelligence Automation at Scale

Leveraging the entire IA suite to drive adoption, growth, and acceleration

Value

**Phase 1A – 8 weeks**

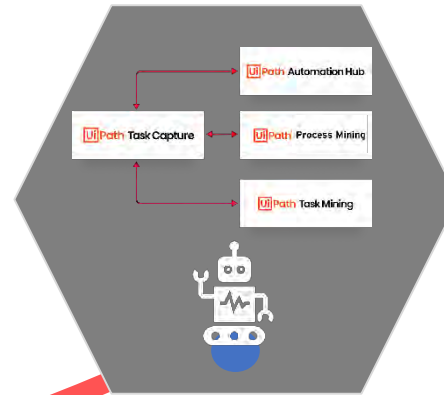
**Foundation, Pipeline, RPA  
Prototype and Architecture**



- Set foundation to succeed at scale across complex landscape
- Showcase prototypes to demonstrate capabilities
- Build robust pipeline to drive tangible ROI in highly-structured business processes

**Phase 1B – 1 year**

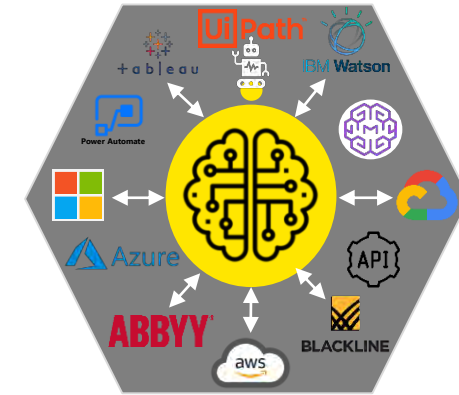
**Intelligent Automation**



- Implement 40+ process automations
- Leverage Process Inventory 1A backlog of prioritized processes (500+ processes submitted)
- Implement & utilize UiPath next-gen discovery tools to mine more robust opportunities

**Phase FY23+**



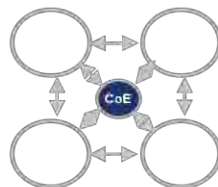
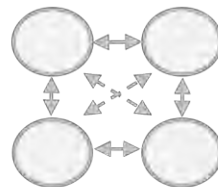
**AI-Powered & Hyper Automation**



- Enable end-to-end transformation using orchestrated technologies, each with its own IA capabilities
- Utilize centralized and scaled Intelligent Automation platform with complete knowledge of the business function

# Our Governance Approach to Process Automation

Based on industry best practices and the nature of BPA, a program has been established to initiate with a centralized delivery center to a federated at scale operating model

	 <b>Centralized*</b> ~1-2 years**	 <b>Partial federation</b> ~2+ years**	 <b>Federated at scale</b> ~4+ years**	 <b>Decentralized</b>
CoE Role	<ul style="list-style-type: none"> <li>▶ Provide complete end-to-end solutions for BPA capabilities</li> <li>▶ Incubates skills and best practices for development</li> </ul>	<ul style="list-style-type: none"> <li>▶ Provide enterprise solutions in support of BPA capabilities (e.g., process controls)</li> <li>▶ Provides QA Gates for Design and Development</li> <li>▶ Owns Deployment and Operations</li> </ul>	<ul style="list-style-type: none"> <li>▶ Provide and measure the execution of strategies, policies, standards, processes and procedures</li> </ul>	<ul style="list-style-type: none"> <li>▶ Act as an informed stakeholder to facilitate strategy and consult on execution</li> </ul>
Benefit	<ul style="list-style-type: none"> <li>▶ Ensures strong governance and well-developed processes</li> <li>▶ Allows for a factory delivery model</li> <li>▶ Prevents rogue one off development</li> </ul>	<ul style="list-style-type: none"> <li>▶ Allows the agencies to own and deploy BPA teams directly</li> <li>▶ Uses the CoE to enforce the best practices and facilitate ongoing operations</li> </ul>	<ul style="list-style-type: none"> <li>▶ Allows the agencies to own and deploy BPA teams directly</li> <li>▶ Reduces the size of a central function while remaining committed to the operating model</li> </ul>	<ul style="list-style-type: none"> <li>▶ Allows agencies to direct BPA efforts and deploy solutions quickly</li> <li>▶ Supports agency-driven culture</li> </ul>
Cost	<ul style="list-style-type: none"> <li>▶ Requires an incubation period for learning and establishing the operating model</li> <li>▶ Does not emphasize agency control</li> </ul>	<ul style="list-style-type: none"> <li>▶ Requires time for federated teams to become familiar with BPA best practices</li> <li>▶ Requires moderate success with a centralized model first</li> </ul>	<ul style="list-style-type: none"> <li>▶ Requires time to fully develop and additional investment from agencies for new roles</li> <li>▶ Requires moderate success with a partially federated model first</li> </ul>	<ul style="list-style-type: none"> <li>▶ Not an integrated environment and costs more long term</li> <li>▶ Can't ensure best practices are consistently leveraged</li> <li>▶ Creates additional risks and a lack of firm-wide transparency</li> </ul>

Increased BPA Program maturity and experience

\*Current State. \*\*Time frame is dependent on multiple factors including investment and commitment

# Poll #3: What RPA Governance Model Does Your Organization Utilize?

1. Decentralized
2. Centralized
3. Federated
4. Don't know or We Don't Use RPA

# Tentative 3 Year Process Automation Plan

~40 Processes Live in FY22

### FY22

- SOW 1A**
  - Architecture
  - Prototypes / Process Inventory
  - CoE
- SOW 1B (9 Mos) / 1C (4 Mos)**
  - 40 Processes Dev & Deploy
  - Process Inventory F&A/Shared , 20 Divisions across Domain Director Agencies
  - DCS Citizen-Facing PA Service
- Other**
  - Training / OCM
  - IA Research /Cost Models

### FY23


- 80-100 Dev & Deploy (2A)**
  - 25/80 Rule (EY/STS) across Agencies
  - Shared / Common Services
  - Citizen-Facing Services
- Process Inventory**
  - Citizen Facing
  - Common Services
  - Shared Services
  - AI / OCR / ICR / ML
- Other**
  - Training / OCM
  - IA Procurement / Infrastructure Decision

### FY24

- 100-120 Dev & Deploy (3A)**
  - 25/80 Rule (EY/STS) across Agencies
  - Citizen / Common Services
  - 75/20 Rule (STS/EY)
- Process Inventory**
  - Selected Agencies / Divisions
  - Offices
- Other**
  - Training / OCM / Recruitment
  - Cost Model Implementation
  - CoE Hub/Federated Model

# Progression Towards Intelligence Automation at Scale

## Program Announcements & Marketing



### PROCESS AUTOMATION GO-LIVE ANNOUNCEMENT

STATE OF TENNESSEE DEPARTMENT OF FINANCE & ADMINISTRATION

#### F&A HRO – Employment Verification

##### Process Metrics

Agency: Finance & Administration  
Division: Human Resource Office




Business Outcomes:

- Decrease in Average Handle Time
- Improved Quality and Compliance
- Customer and Employee Satisfaction
- Increased Employee Productivity

Annual Hours Saved: 200

Applications Used: Edison, FileNet, Adobe Sign, Shared Inbox, O365, Adobe Reader

##### Process Automation Team

-  Dana Braxton  
Automation Process Owner
-  Amanda Treat  
Automation SMR
-  Teresa Jones  
Automation SMR

Hello State of TN Process Automation Community!

The State of Tennessee has been hard at work on the Process Automation Project. We are excited to announce that the **F&A HRO – Employment Verification** process has been successfully automated and transitioned into long-term support. The Process Automation is running in the production environment as of **3/21/2022**. Thank you to everyone on this distribution that has made this automation a success.

##### Process Automation Overview:

- Validates verification of employment requests from a lender
- Searches Edison for employee information and populates the template
- Sends the form for Adobe Signature to the F&A HRO Team
- Uploads the signed document to FileNet and sends the completed file back to the lender

Best Regards,  
State of Tennessee Process Automation Project Team

##### Program Metrics (as of 3/21/22)

- 9 Automations in UAT
- 6 Automations in Production
- 3 Use Cases in Hypercare
- 3 Automations in Production Support
- 29 Total Unique Automations for Sprint 1 & 2
- 747 Transactions processed



Department of Finance & Administration

### Process Automation Program

#### Process Automation Go-Live Notification

**Who:**

- Agency: STS – Strategic Technology Solutions
- Division: Enterprise Governance and Administration (EGA)
- Use Case Name: STS Planview Rate Adjustment

**What:**

An internal automation will now assist **STS – Enterprise Governance and Administration (EGA)**. This notification serves as an awareness to the interested parties regarding the go-live date and an overview summary of the process automation's scheduled activities.

**When:**

The process will go live on 03/28/2022.



Agency: STS - Strategic Technology Solutions  
Division: Enterprise Governance and Administration (EGA)  
Process Automation ID: FA0023  
Use Case Name: STS Planview Rate Adjustment

#### PROCESS AUTOMATION OVERVIEW

- Retrieves input file containing billing and cost rate adjustments that need to be made for employees and contractors.
- Logs into Planview and updates the new billing and/or cost rate adjustment for each employees / contractor

Thank you,  
State of Tennessee Process Automation Team



Department of Finance & Administration

### Process Automation Program

#### Process Automation Go-Live Notification

**Who:**

- Agency: Finance & Administration
- Division: Strategic Technology Solutions
- Use Case Name: Auto Enroll Process

**What:**

An internal automation will now assist Strategic Technology Solutions. This notification serves as an awareness to the interested parties regarding the go-live date and an overview summary of the process automation's scheduled activities.

**When:**

The process will go live on 03/21/2022.



Agency: Finance & Administration  
Division: Strategic Technology Solutions  
Process Automation ID: FA0023  
Use Case Name: STS - Auto Enroll Process

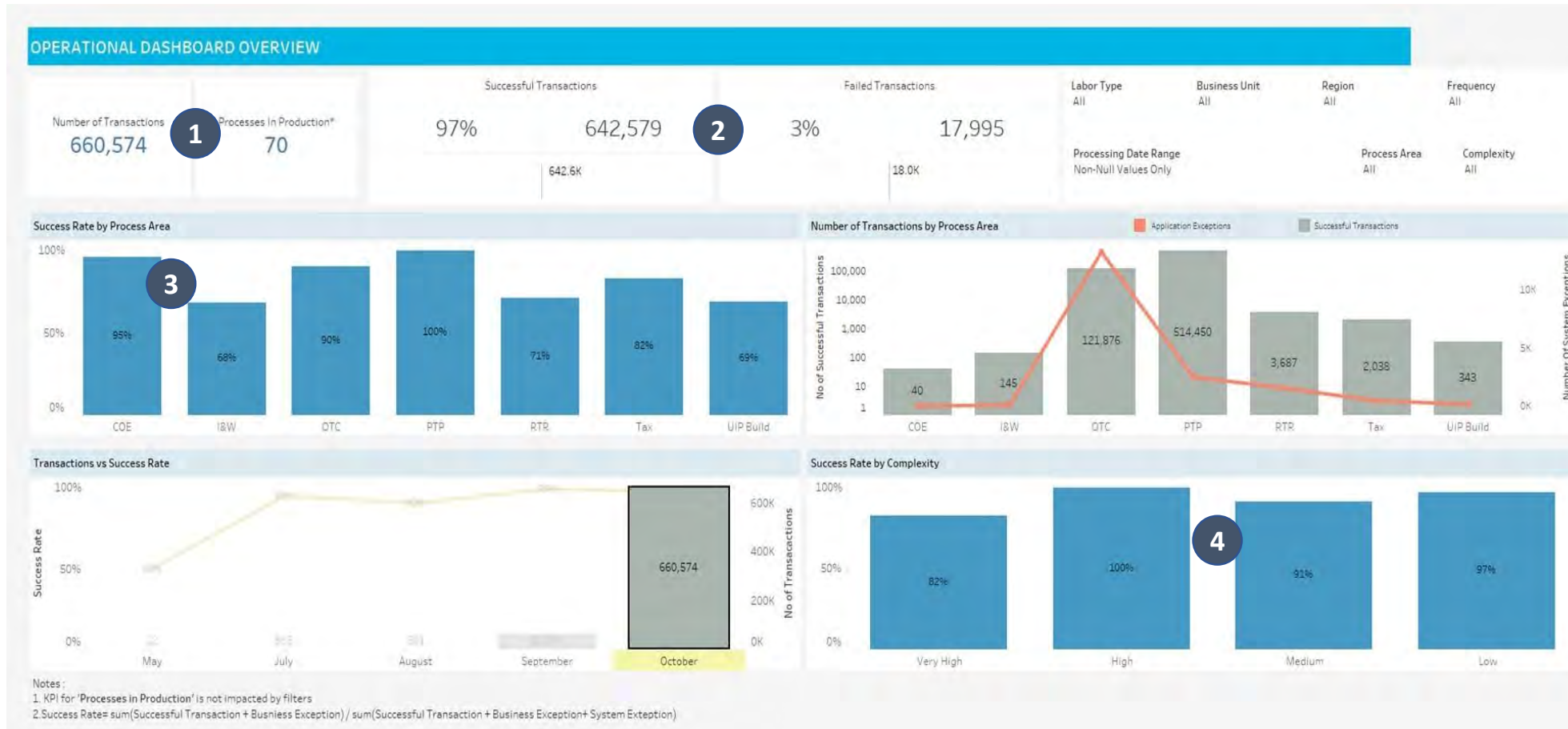
#### PROCESS AUTOMATION OVERVIEW

- The automation corrects instances where someone is kicked out of the Maintain Time Reporter Data(MTR)
- Downloads the Auto-Enroll log and Vamoose file from a Report Analyzer tool
- Creates a queue of employees to fix / quality check and follows the appropriate steps for each of the 6 errors in-scope
- Last, the automation uploads an updated log with progress to a shared drive and emails the Time & Labor team with a high-level snapshot of what was processed

Thank you,  
State of Tennessee Process Automation Team

# Progression Towards Intelligence Automation at Scale

Operational, Support, & Executive Dashboarding



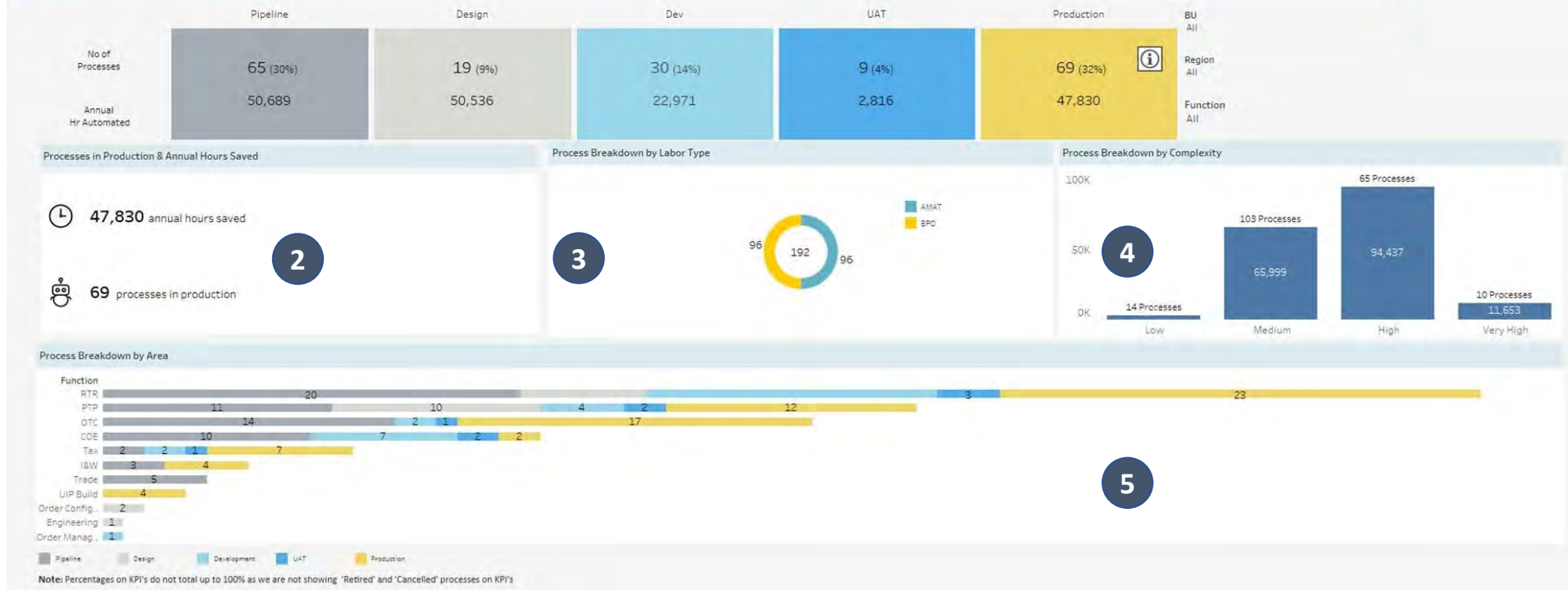
- 1. Operations summary:** Total transactions processed by the Automated Solutions and number of processes in production
- 2. Transactions details:** Breakdown of the transactions by status
- 3. Success rate by process area:** Percentage of success by the different process areas where automations are available
- 4. Success rate by complexity:** Percentage of success by the complexity of the use cases



# Progression Towards Intelligence Automation at Scale

Operational, Support, & Executive Dashboarding

## 1 AUTOMATION PROGRAM OVERVIEW



1. **Work Breakdown by Lifecycle:** Count, hours and percent distribution of work across the process lifecycle that provides an end to end view of the program's activities

2. **Processes in Production & Annual Hours Saved:** Production snapshot by hours and processes to track the PA CoE value generated

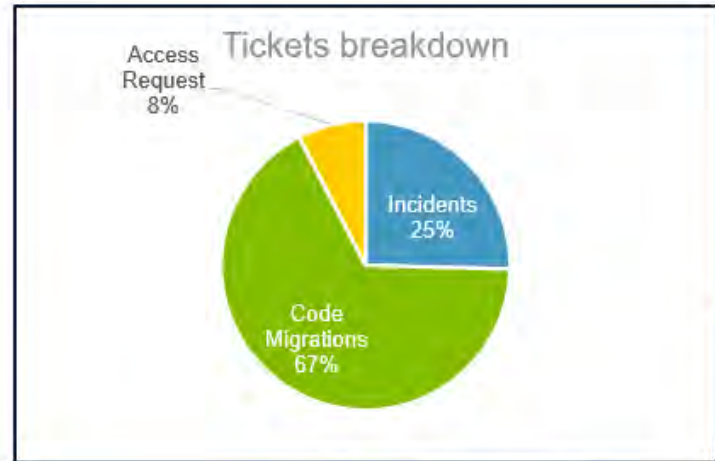
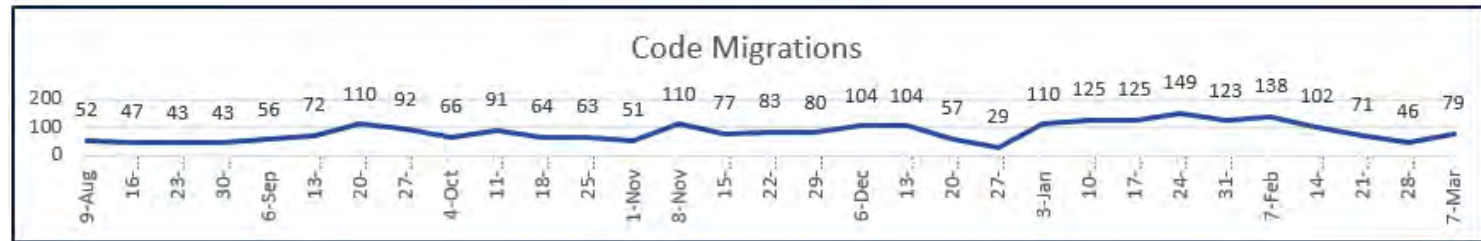
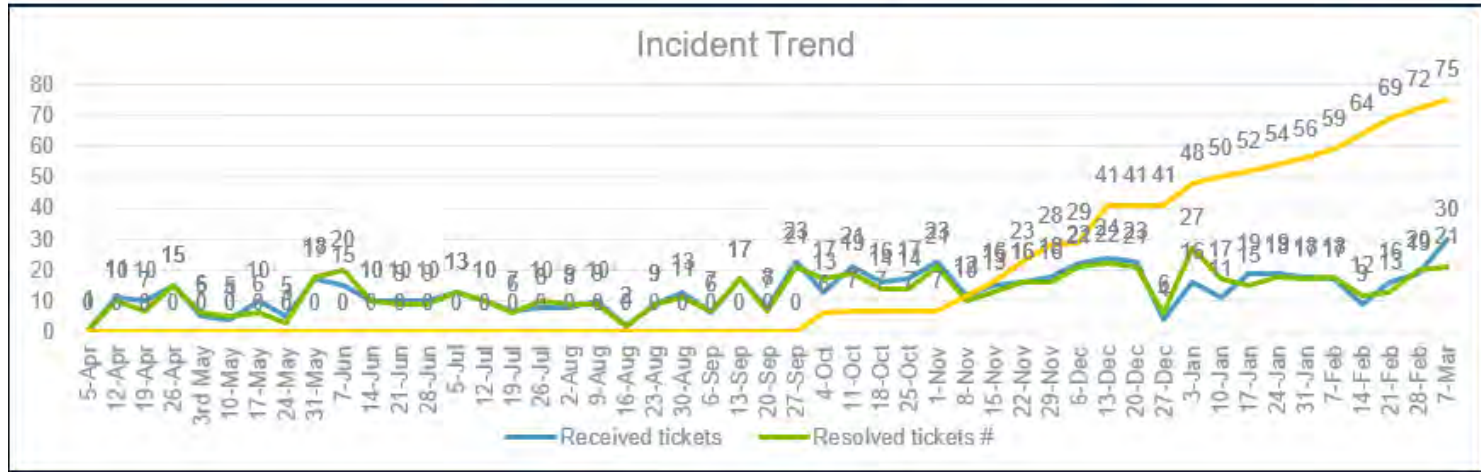
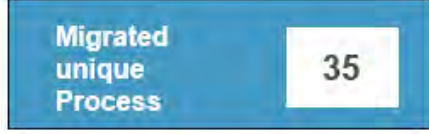
3. **Process Breakdown by Labor Type:** View into the distribution of process across different labor categories to help understand the potential financial and production impacts

4. **Process Breakdown by Complexity:** Provides a view into the distribution of automations based on complexity and hours. This view shares an insight into the distribution of the CoE's team efforts and the velocity of change

5. **Process Breakdown by Area:** Process count breakdown by agency to understand the volume of activities and time committed to each agency

# Progression Towards Intelligence Automation at Scale

Operational, Support, & Executive Dashboarding



# Automation “Hot Spots”

## What to Look for in Risks & Controls

E

### RPA Follow-up Activities

- ▶ Sending MAPs follow-ups
- ▶ Ongoing monitoring of the performance of the internal audit activity

A

### RPA for Risk Assessment

- ▶ Aggregating/prioritizing risk priorities
- ▶ Automatic dashboards for clients
- ▶ Gather inputs (CPI, past audit reports, financial statement data, growing beyond borders metrics, etc.) and to perform analysis based on predefined KPIs (DSOs, AR aging, etc.)

Planning and Risk Identification	Assessment	Reporting	Monitoring
Identified the areas for requirements and scope	Identified the areas for requirements and scope	Identified the areas for requirements and scope	Identified the areas for requirements and scope
Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning
Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning
Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning	Consolidated with management and internal audit risk planning



D

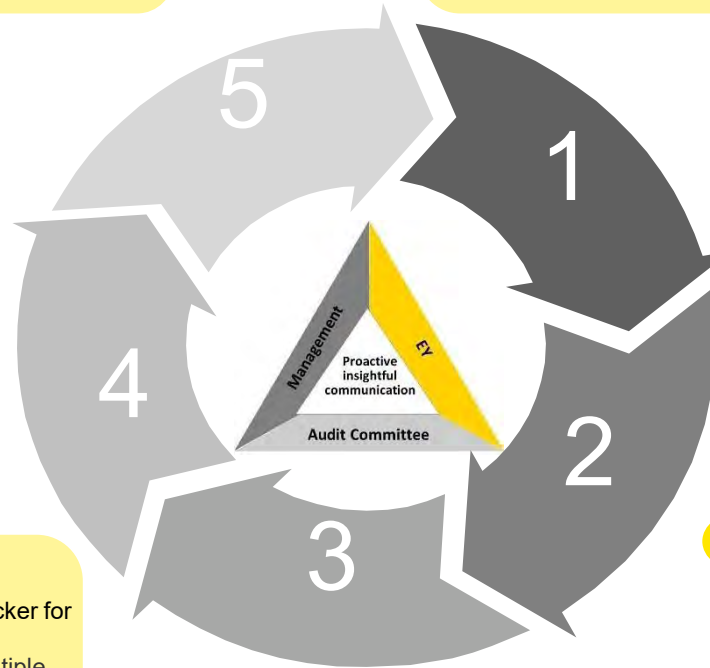
### RPA for Internal Audit Reporting

- ▶ Checking for review notes/comments and spelling
- ▶ Populate Audit Report from presentations and issue log maintained during fieldwork
- ▶ Report formatting (font type, font size, headers, footers, page numbers, etc.)
- ▶ Archiving process in EYD by ensuring appropriate labels and tasks are checked “complete”
- ▶ Distribute reports to owners

B

### RPA for Internal Audit/SOX Planning

- ▶ Population validation and sample selection
- ▶ Extracting data from 10k's and 10Q's
- ▶ Time & Expense continuous monitoring
- ▶ Document requests and sending follow-ups for late requests
- ▶ Gathering financial data, analyzing against other BUs, other quarters/years, etc. and identifying outliers or major shifts.
- ▶ Identify potential risks missing from RACMs based on sector matrices
- ▶ Budget to actual analysis



C1

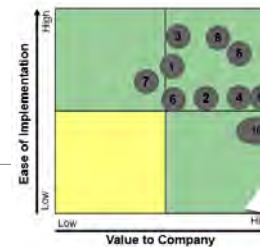
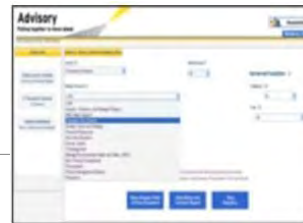
### RPA for Internal Audit Execution

- ▶ 100% population testing
- ▶ Automated testing of attributes against defined rules
- ▶ Data collection, extraction and transformation
- ▶ Automation of document request lists and managing client follow-ups
- ▶ Consolidate Automated testing of vendor transactions, compliance with audit results and findings
- ▶ rate cards and pricing models

C2

### RPA for SOX Execution

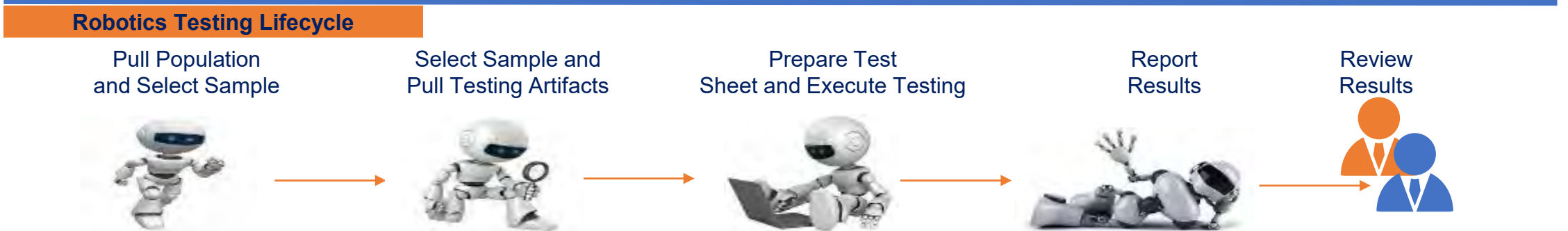
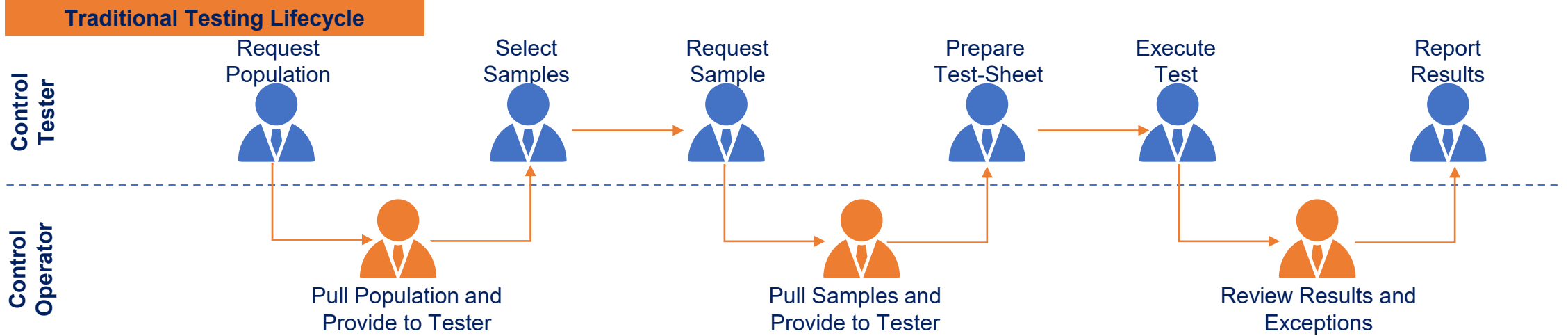
- ▶ Creating test sheets based on RACM/ test matrix tracker for ITGC
- ▶ 100% of population testing of manual JEs across multiple ERPs/Applications using a standard set of column order
- ▶ Continuous control testing and dashboard updates
- ▶ Automated testing of configurations (SAP/Oracle etc.)



# Automation “Hot Spots”

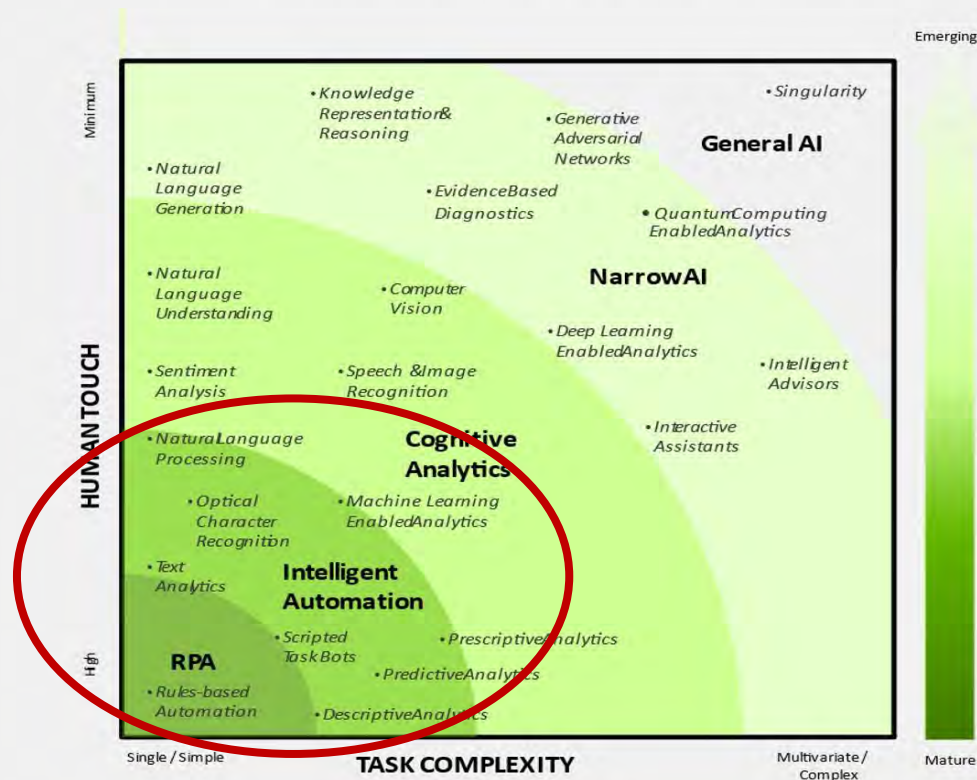
What does an automated testing environment look like?

The testing lifecycle traditionally has many hand off points and activities interdependent on control tester and operator coordination. Much time is incurred pulling materials to prepare for and execute control testing. RPA enabled testing allows up to 100% testing automation, greatly reducing friction around the testing life cycle.



# Intelligent Automation Module 3 Year Roadmap

## The Artificial Intelligence Spectrum



Emerging

### General AI (Automates Human Intelligence)

Machine intelligence that fully replicates human intelligence, including independent learning and decision making

### Narrow AI (Augments Human Intelligence)

Applies deep statistical learning to train models to become more precise and efficient over time in predictions and judgment

### Cognitive Analytics (Mimics Human Judgment)

Transforms extensive, unstructured data into meaningful, focused, human-like insights and recommendations upon which a human can act; can scale complexity and judgment through application of Machine Learning

### Intelligent Automation (Automates Human Workflow)

Use of Natural Language Processing and Machine Learning to enable processing of unstructured data, predictive and prescriptive analytics and automation of tasks that involve judgment

### Robotic Process Automation (Automates Tasks)

Mimics humans performing rules-based tasks to improve efficiency, quality, and accuracy of process outcomes, as well as increase flexibility and opportunity to scale

# Poll #4: What Will be the Biggest Impact on Internal Control/Audit from Automation?

1. Time Savings
2. More confidence in audit opinion
3. More comprehensive testing
4. I can retire and let the bot do it

# Agenda

- Internal Control Tools at Diplomatic Security
- RPA at the State of Tennessee
- Q&A