Excelitas' SOD Financial Analytics: Bridging the Gap between Audit Findings and Remediation

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SAPinsider

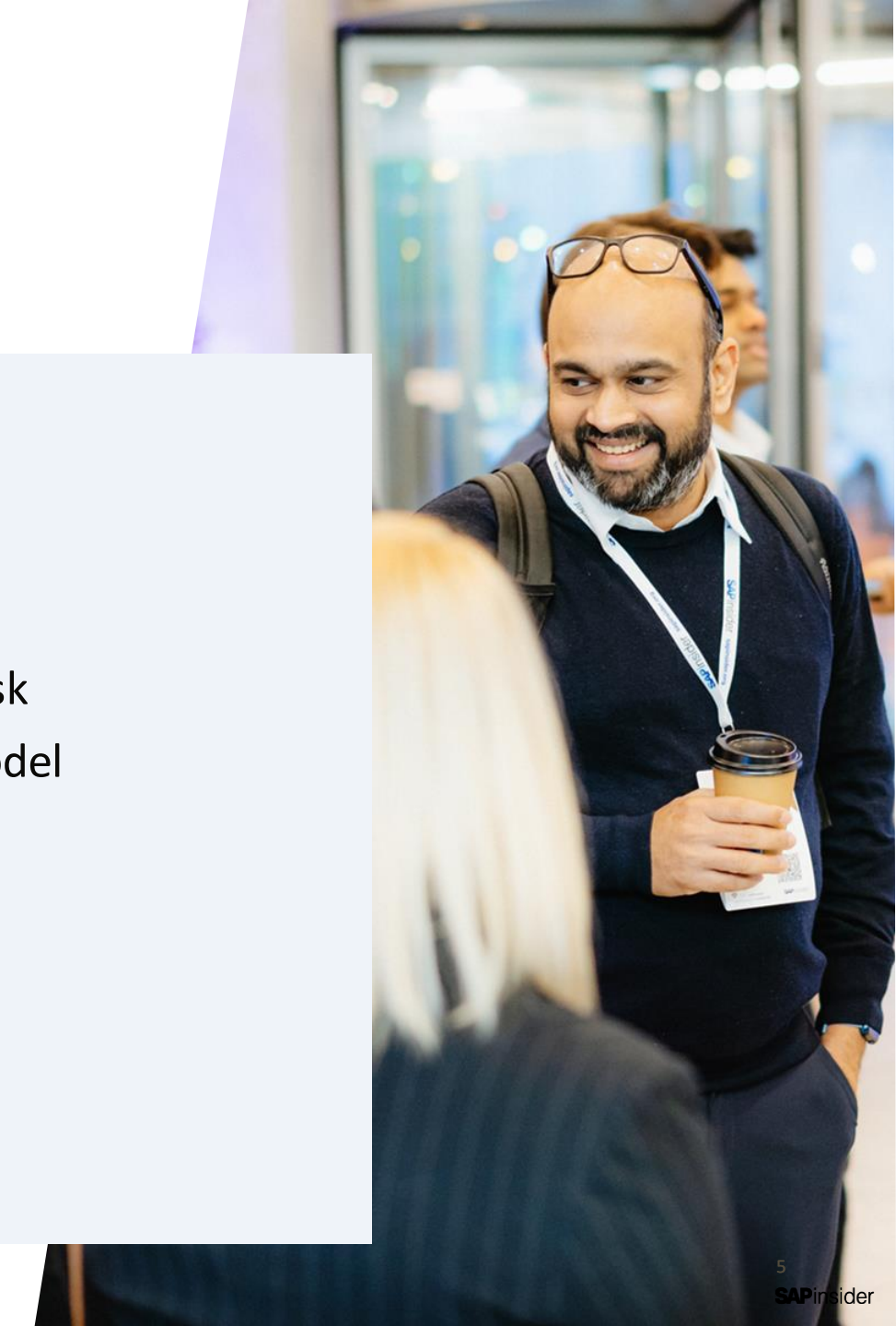
NEED DECLUTTERING!

Control Deficiencies Accumulated

Excelitas' SOD Financial Analytics: Bridging the Gap between Audit Findings and Remediation

What We'll Cover

- Our Company and SOD Journey
- Assessing the Risk Universe
- Strategizing Remediation Efforts
- Quantifying Financial Impact of Access Risk
- Implementing a Best Practice Security Model
- Transforming the Organization
- Wrap-Up



Company Overview

Excelitas Technologies is a technology leader in delivering high-performance, market-driven photonic innovations to meet the illumination, optical, optronic, sensing, detection and imaging needs of customers worldwide. Serving a vast array of applications across automotive, consumer products, defense and aerospace, industrial, medical, safety and security, and sciences sectors, Excelitas Technologies stands committed to promoting our customers' success.

Project Background

Challenges

User access security insufficient in change control management

Overprovisioning of access to users together with limited preventive checks in place

No periodic access reviews in place to monitor risk and obtain approvals for access retention or removal

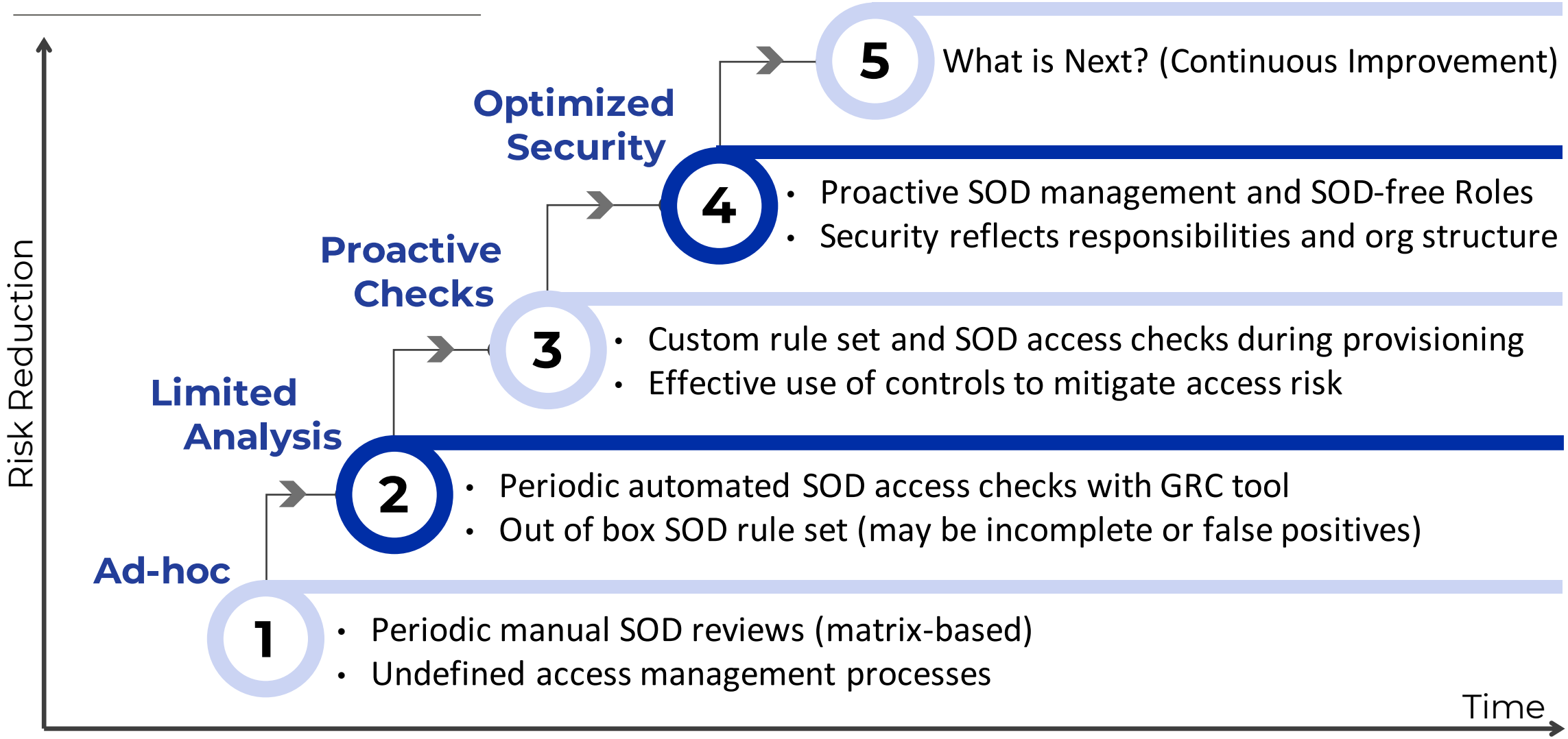
Key Considerations

SAP footprint includes four (4) SAP ECC environments and one (1) SAP S/4 Central Finance system used for central processing and direct entries

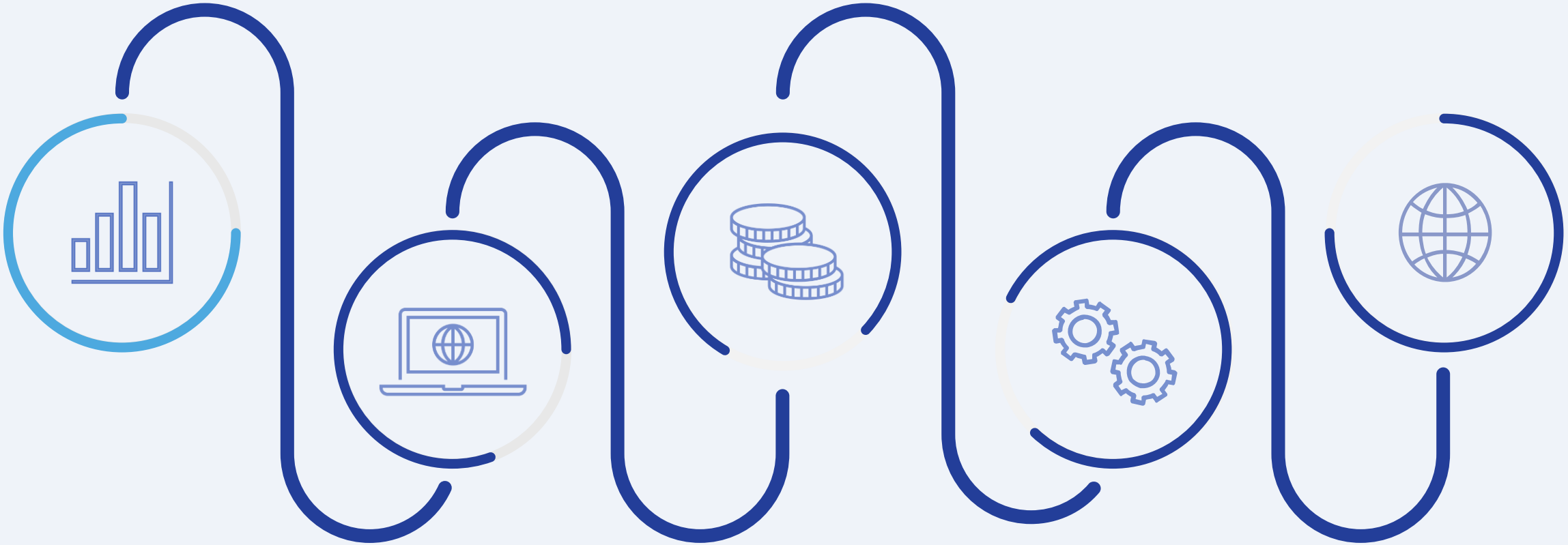
Majority of issues were found in SAP systems when evaluated alongside other key financial systems such as Microsoft Dynamics AX2009 and Salesforces

These control deficiencies accumulated to Significant Deficiencies reported in Program Change and Access to Programs & Data

Access Management Maturity



Our SOD Journey



Phase 1 Assessment Project Overview

- Kicked off in July 2022
- Assessed current state security across critical financial systems using automated tools
- Analyzed role-level and user-level Segregation of Duties (SOD) conflicts and Sensitive Access (SA)
- Reviewed results with key stakeholders to develop remediation plans
- Leveraged an agile approach to prioritize areas of greater risk
- Created a timeline for quick wins and remediation strategy

Remediation Approach Options

Based on assessment findings, the following options were considered for SAP Security remediation efforts:

Options	Details	Summarized Approach	Pros (+)	Cons (-)
Targeted Remediation	Remediate roles and/or users based on highest level of priority risks	• Identify Quick Wins • Remove IT sensitive access from day-to-day roles • Establish approach for Elevated Access Management • Remediate inherent high SOD conflicts from roles where possible	• Quicker turnaround • Lower initial cost • Fewer business disruption	• Increased challenge when confronting large number of roles with excessive access • Limited reduction in SOD violations and risk • Inconsistent role architecture
Role Redesign	New security roles designed and built for all users based on business requirements	• Develop initial role design based on tcode usage and stakeholder input • Build roles and perform functional unit testing and SOD analysis • Conduct user acceptance testing • Finalize user mapping, transport finalized roles, and hypercare	• Role architecture consistent and scalable • Easier to maintain • No inherent SOD risks within technical roles • Architecture shareable across instances	• High level of business involvement and coordination • More expensive to attain fuller coverage versus remediation

Our SOD Journey

Strategic Remediation Roadmap

Short Term

Quick Wins

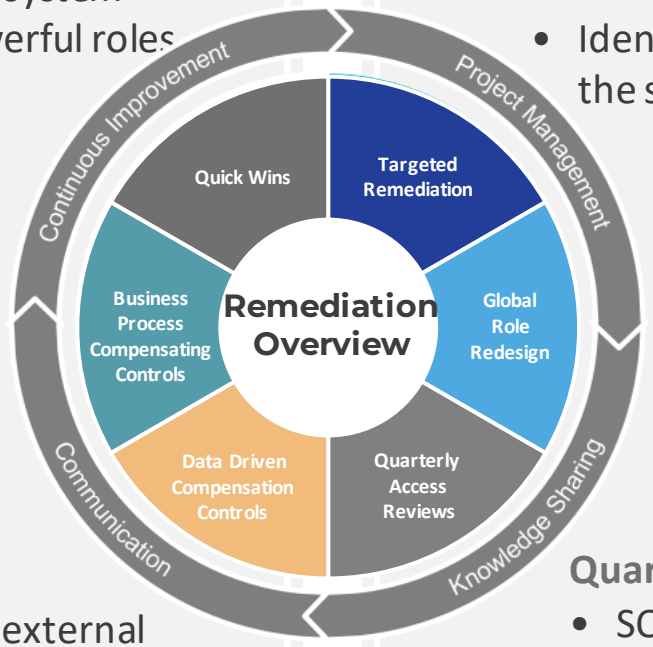
- Targeting impactful areas to clean up overall system security (e.g., remove generic accounts, powerful roles, inactive users)

Business Process Compensating Controls

- Technical remediation or redesign resolves only 70% of user SOD
- Identify controls (automated or manual) to mitigate access

Substantive Testing or Data Driven Compensation Controls

- Substantive testing of user SOD expected by external audit with ongoing remediation efforts
- Use of automated SOD quantification tools leading to reduction in effort and cost of testing



Long Term

Targeted Remediation (Non-SAP Systems)

- Identifying and addressing targeted high-risk issues
- Identifying key risk areas to improve overall health of the system's security

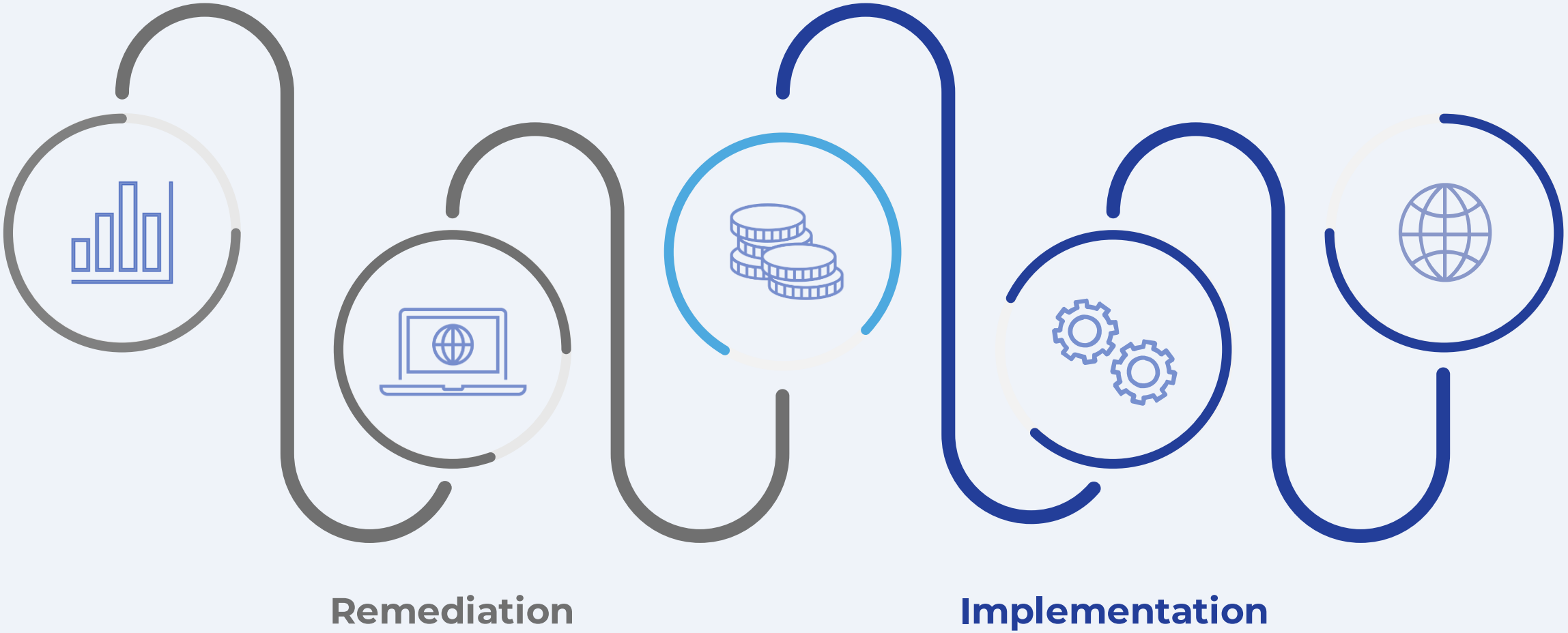
New Global SAP Role Design

- New security roles for S/4 users based on business requirements & compliance
- Significantly reduce access risk
- Clarify SOD and access review processes
- Improve efficiency and scalability of SAP security administration & maintenance

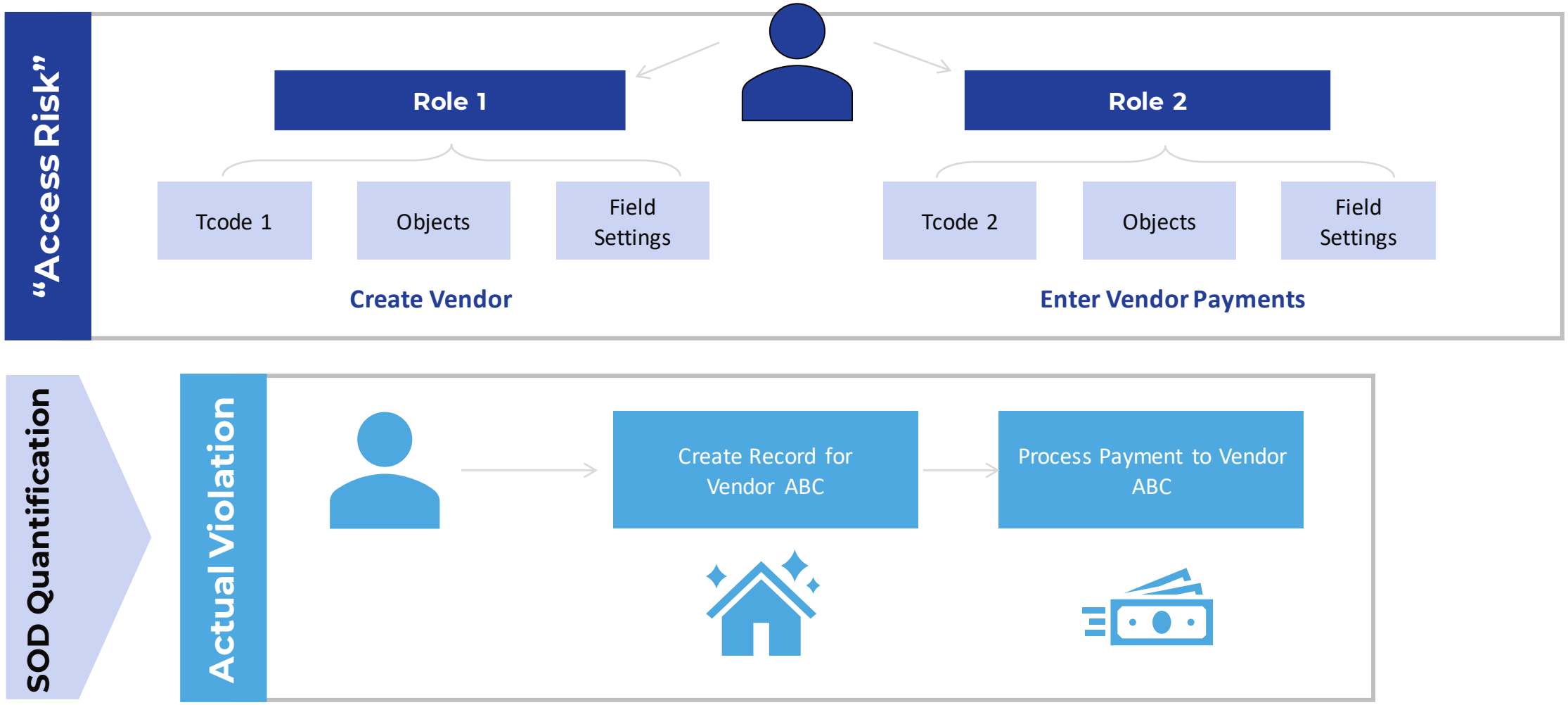
Quarterly SOD Access Reviews

- SOX compliance requires quarterly access reviews of financial systems via external audit
- Implementation of GRC tool(s) enables periodic SOD reviews and other governance

Our SOD Journey



SOD Risk Example



Isolate Actual Risk Exposure

"Can-Do" Access Risk

100's of users across many different countries had access to conflicting functions.

Tested 100% of the Population

"Did-Do" Occurrences

###

transactions

$$$

We found the actual users who had carried out conflicting transactions, how many times, and for how much.

Quantified Financial Impact

SOD Quantification Project Overview

User access to numerous Segregation of Duties (SOD) Risks identified as part of Phase 1 assessment.

Management action plan was to remediate security for end users and have a user access management process implemented by 2023. However, due to timeline restrictions and external audit concern, substantive testing related to SOD still needs to be performed.

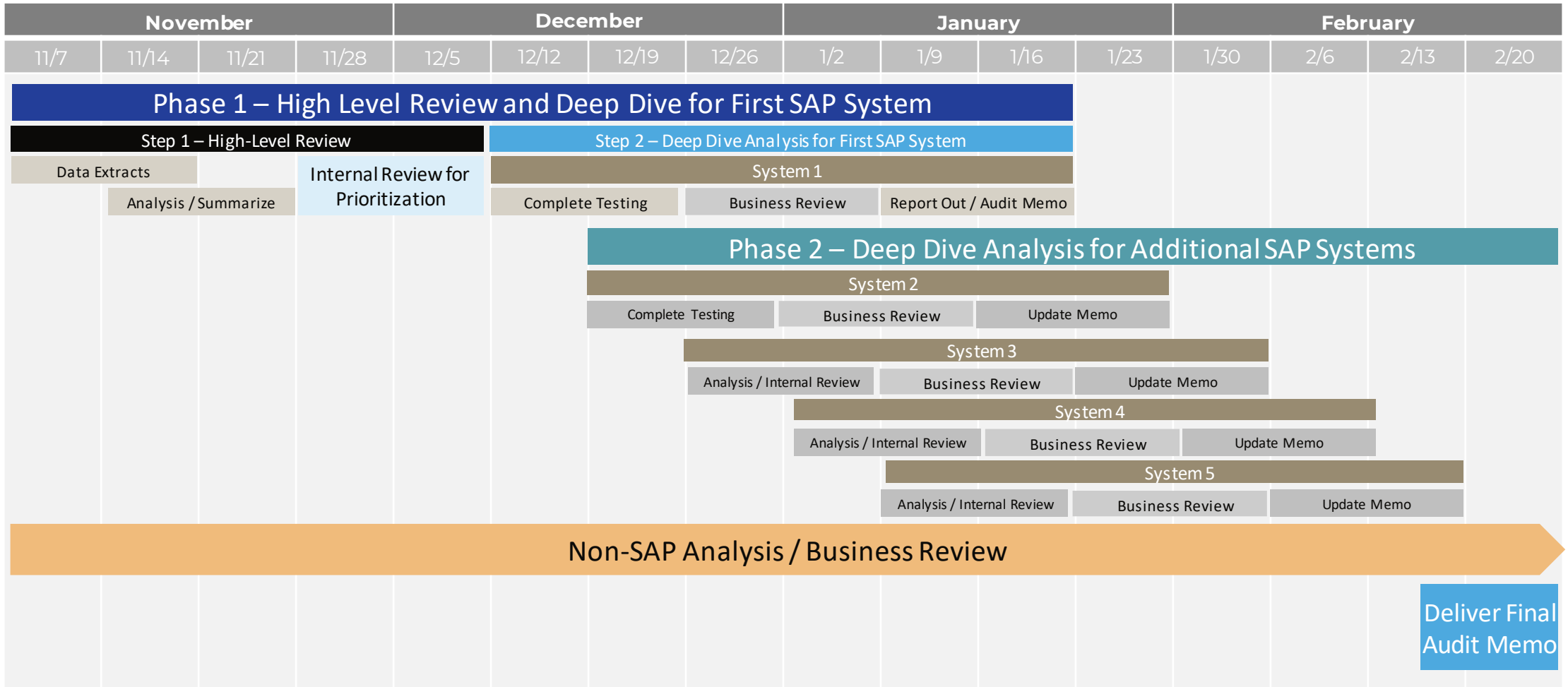
Outcomes:

- Identified Actual SOD Violations to Key SOD Risks ("Did-Do Analysis")
- Filtered results based on user activity and materiality
- Reviewed individual transactional line items with local management
- Provided a memo with findings to external audit

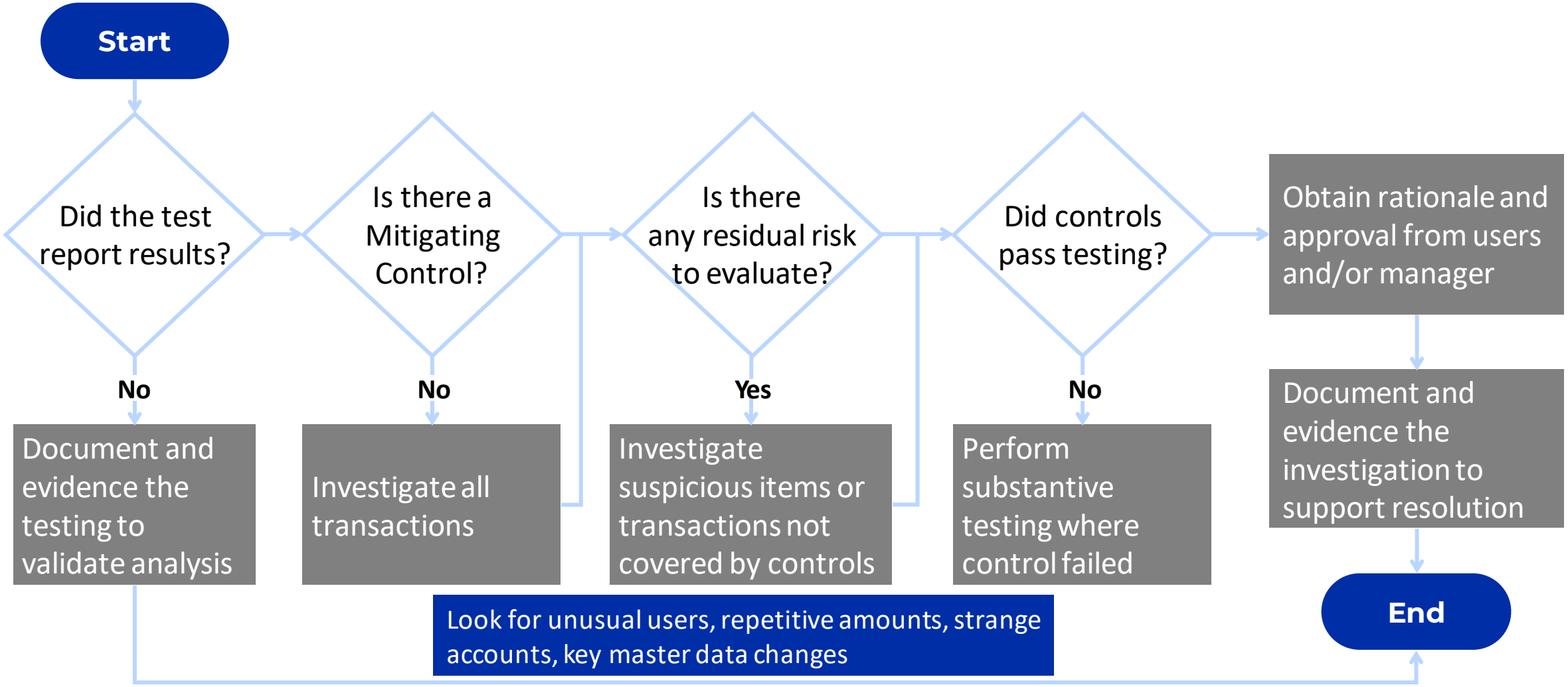
Scope:

- Only High SOD Risks
  - SAP Automated Analysis: 33 SOD Risks
  - SAP Manual Testing: 28 SOD Risks
- 5 SAP Production Instances (1 CFIN and 4 ECC)
- FY2022 Tested Once (Year-end was not included)
- Ad-hoc Analysis for Non-SAP Systems

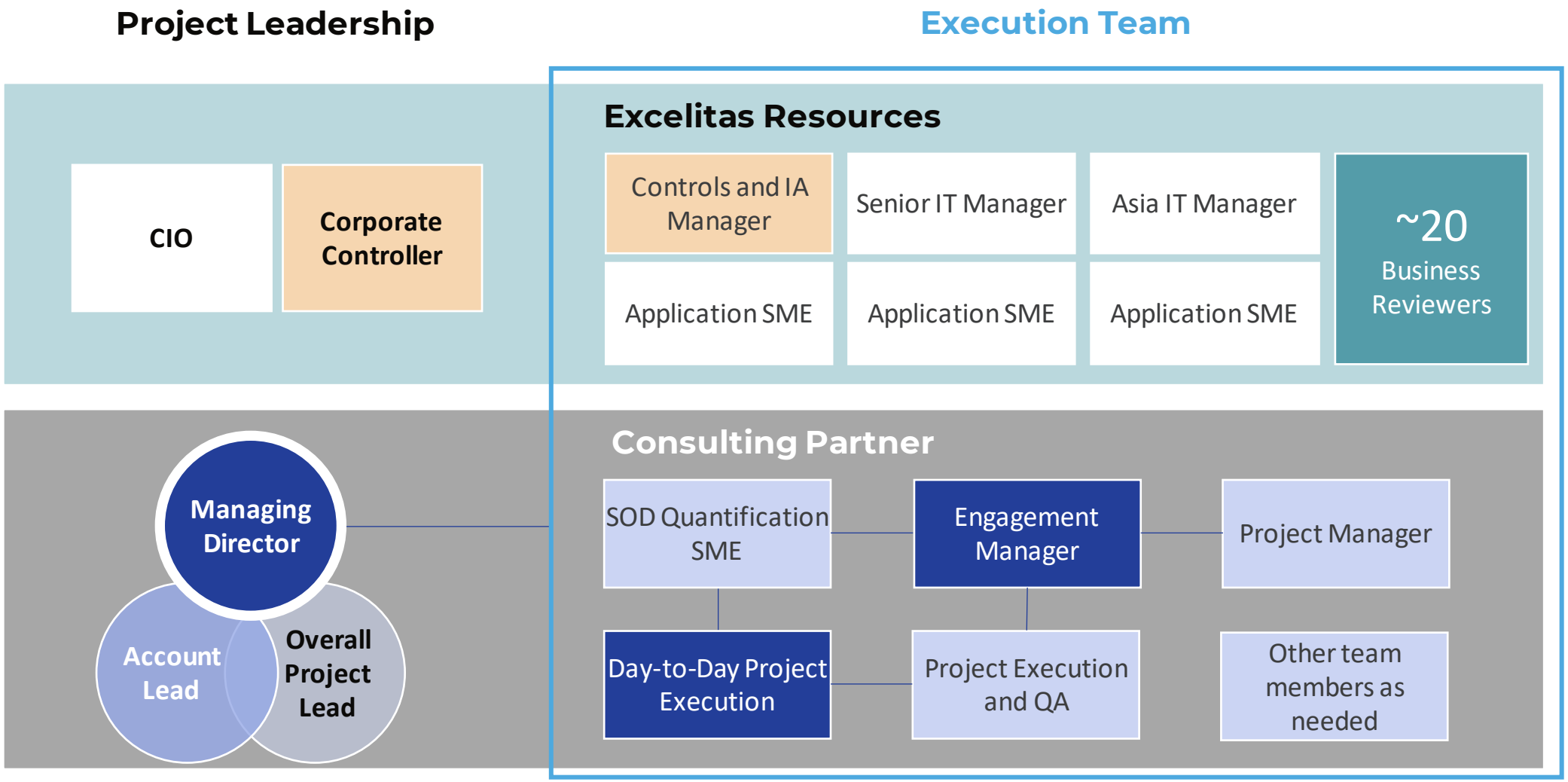
Approach and Timeline



Exception Review Process



Project Team



Our SOD Journey

Leading Practice SAP Security Design Principles

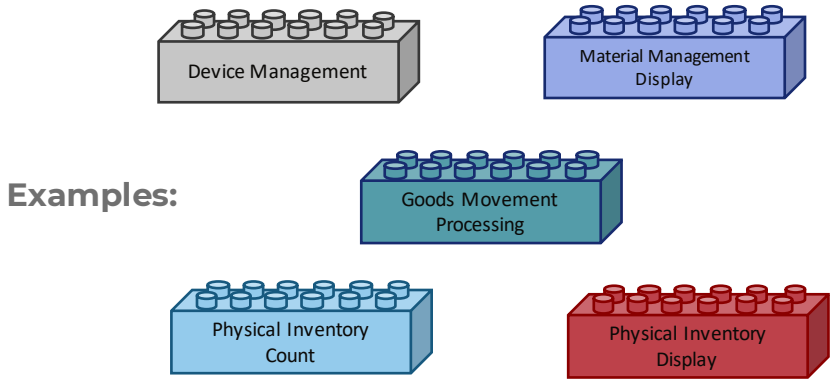
1. Segregation of Duties (SoD) Conflict Free Design (Task Role Level)
2. Least Privilege Access when designing and provisioning access
3. Consistent Role Naming Convention
4. Minimize duplication of transaction codes and Fiori applications
5. Tiered Role Architecture (Critical / Sensitive access)
6. Separate access in roles between Display vs. Update transactions
7. Separate access for emergency/critical activities (Firefighter) and non-dialog users

Task-Based Role Methodology

A task-based role design includes building each role to perform a single function/task (e.g., creating a role for Vendor Master Maintenance, for Sales Order Creation, etc.). All transactions related to a task are grouped together.

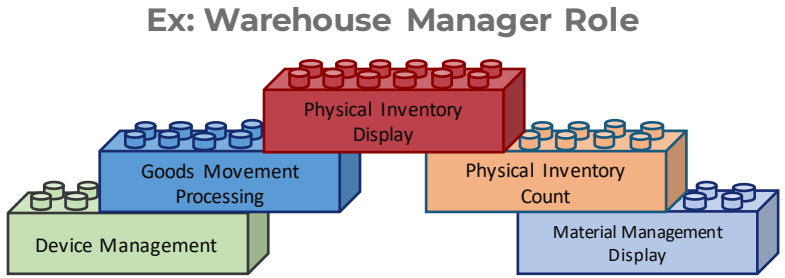
Task Roles

- Grouping of functionality (e.g., tcodes, Fiori apps) to accomplish a single task
- Highly granular roles
- Application-specific (e.g., S/4, MDG, BW)



Business Roles

- Groupings of technical roles to provide all required access for a given user's job responsibilities
- Large, business-driven roles
- Can include technical roles from multiple applications



Advantages of Task-Based Methodology:

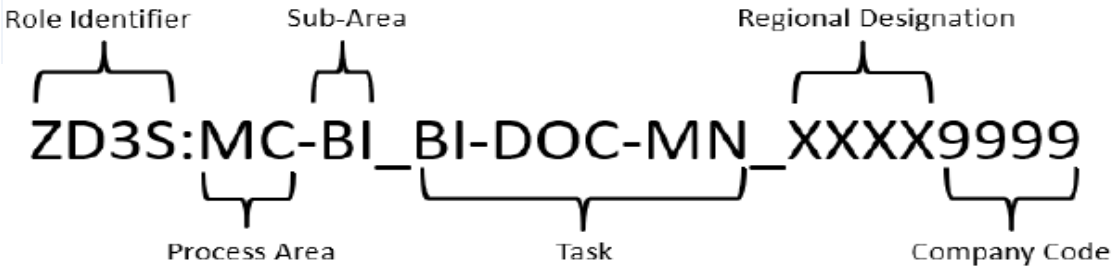
✓ Minimizes transaction duplication in roles by relegating it to only transactions that perform cross-functional tasks (FB01 for AR, AP, GL Posting)

✓ Allows for flexibility in user access assignment such that users are specifically assigned only the tasks they need to perfom their jobs

Implementation Security Design Assessment

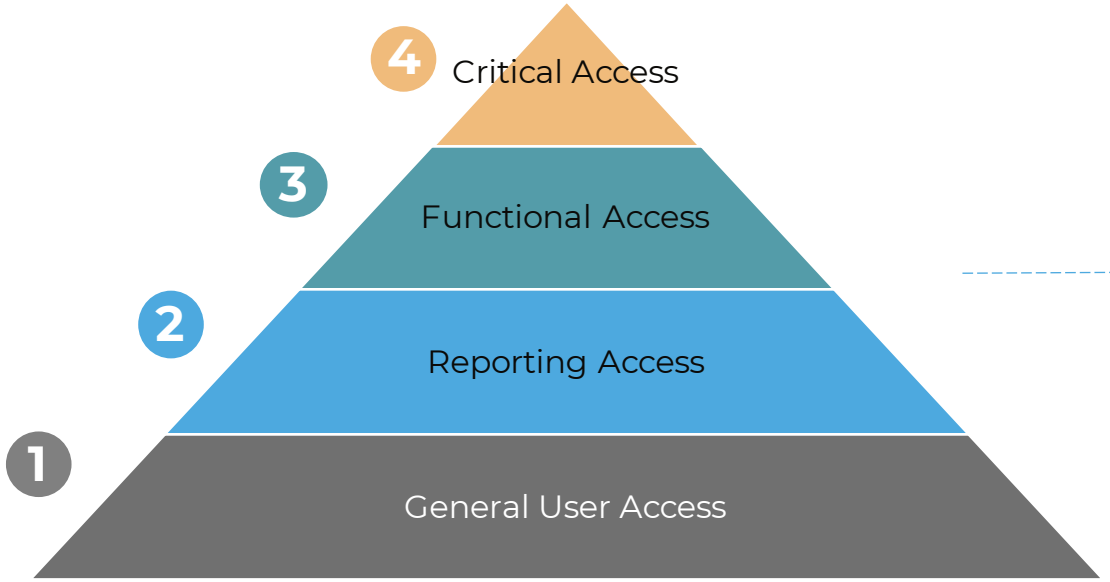
Standardized Naming Convention

- Evaluated requirements and developed security role-naming convention in alignment with the business based on Leading Practices



Role Identifier Components

Role Identifier							
Landscape Tier		Role Type		Criticality		System	
Z	Production Role	M	Master	4	Critical	S	S/4HANA
Y	Non-Production Role	D	Derived	3	Update	F	Fiori
		S	Single	2	Display	L	SLT
				1	General	C	C/4HANA
						A	Ariba
						M	Solution Manager
						G	MDG

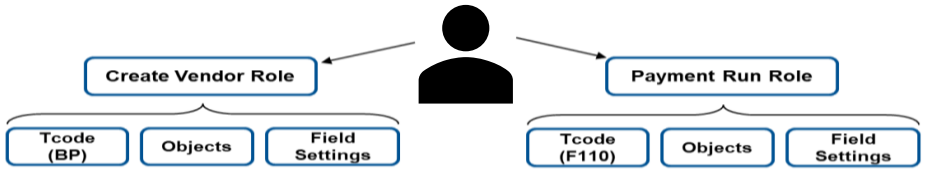


Tiered Access Architecture

- Developed Role Design Principles using leading practice with Fiori App and GUI transactions
- Evaluated requirements and developed security architecture and role-naming convention aligned to the business

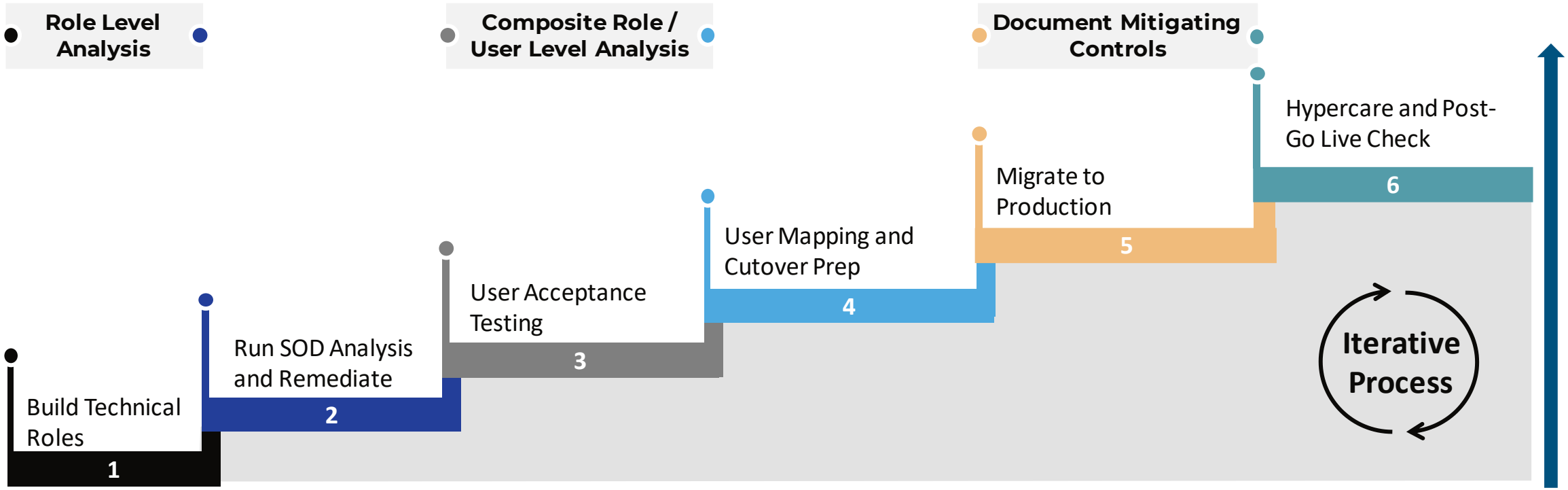
Segregation of Duties

- Reviewed Leading Practice SOD Ruleset with key stakeholders
- Executed Role-level SOD analysis post-build and remediated inherent conflicts



Pre-Implementation SOD Review Process

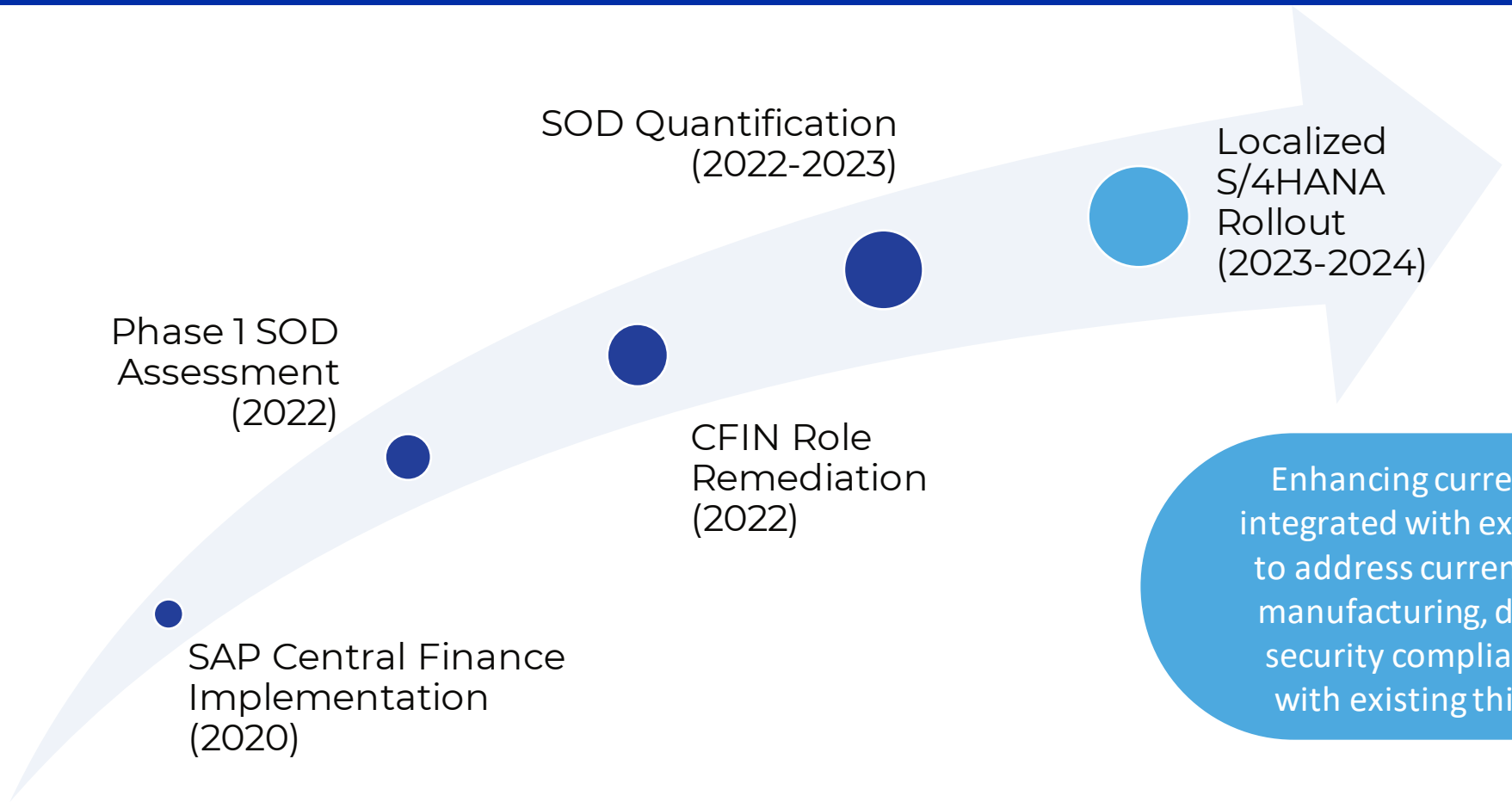
The following steps provide a brief overview of an approach for building security. The security support team provides timely assessments to system implementors to ensure that the roles are risk-free; and if it does happen, that the user assignment minimizes such risk as much as possible.



Our SOD Journey

S/4HANA Roadmap

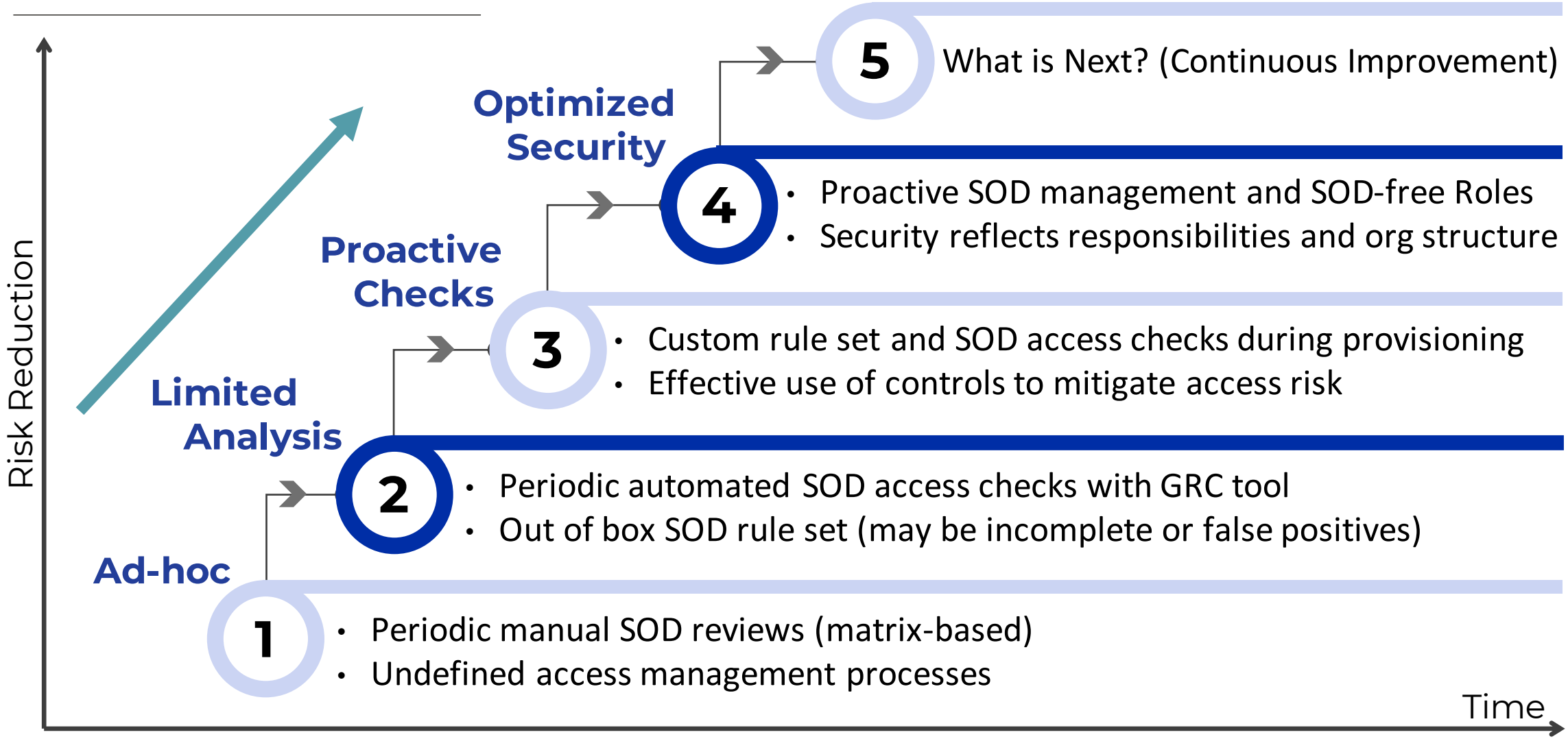
Excelitas has embarked on IT Technology Transformation initiative for simplified & uniform business process execution with enhanced user experience and single source of truth



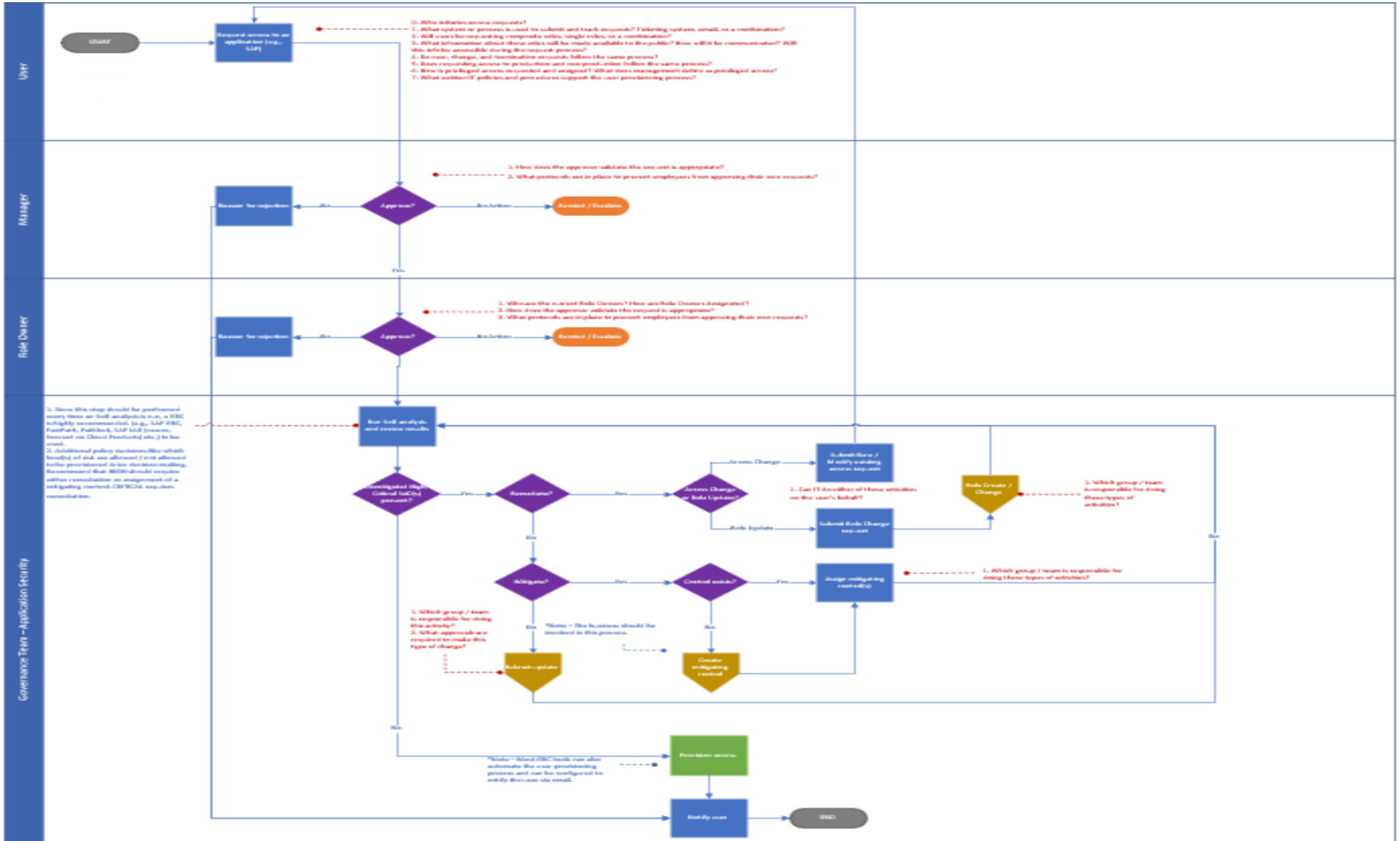
"Project Evolution"

Enhancing current S/4HANA Instance integrated with existing CFIN for local site to address current and future needs for manufacturing, distribution, financials, security compliances and integrations with existing third-party applications

Access Management Maturity Revisited



New Provisioning Process (Create / Change User)



User

Manager

Role Owner

Compliance Team

Wrap Up

- Where to Find More Information
- Key Points to Take Home
- Q&A

Where to Find More Information

System Integrator or Security Specialist: Who Should Be Responsible for Implementing S/4HANA Security and Controls?

- Blog post from Mohammed Abdullahi, an SAP Security SME with Protiviti (January 2024)
- https://sapblog.protiviti.com/2024/01/24/system-integrator-or-security-specialist-who-should-be-responsible-for-implementing-s-4hana-security-and-controls/

Designing SAP Application Security

- Protiviti Whitepaper on Leveraging SAP Access Monitoring Solutions During SAP Implementations, Upgrades, or Security Redesign Projects (September 2022)
- https://www.protiviti.com/sites/default/files/2022-09/designing-sap-application-security-protiviti.pdf

Managing Risks Along Your SAP S/4HANA Journey

- Protiviti POV on How Internal Audit and Compliance Functions Can Support S/4HANA Projects (September 2022)
- https://www.protiviti.com/sites/default/files/2022-09/pov-internal-audit-role-sap-hana-protiviti.pdf

Key Points to Take Home

- **Quantify Risk:** SOD quantification gives enhanced visibility to SOD issues
- **Apples and Oranges:** Understand the difference between ‘potential’ SOD conflicts and ‘real’ financial impact
- **Prioritize Intelligently:** Removing excessive access, such as unused transactions, can be a quick win in reducing SOD access
- **Plan Strategically:** Developing a roadmap to remediation of SAP access deficiencies while performing mitigating activities can buy yourself time
- **Take Action:** Monitoring known risks can be started immediately to maintain compliance
- **Build Governance:** Specialized knowledge is required for understanding details of SAP security, business processes, SAP table structures, compliance risk, and organizational hierarchy
- **Secure Sponsorship:** Buy-in from executive leadership is critical to ensure that the right message is being heard and communicated to the broader organization

Thank you! Any Questions?

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Please remember to complete your session evaluation.

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