# Reducing Stress in the Stress Testing Process

Presented by protiviti and Trepp

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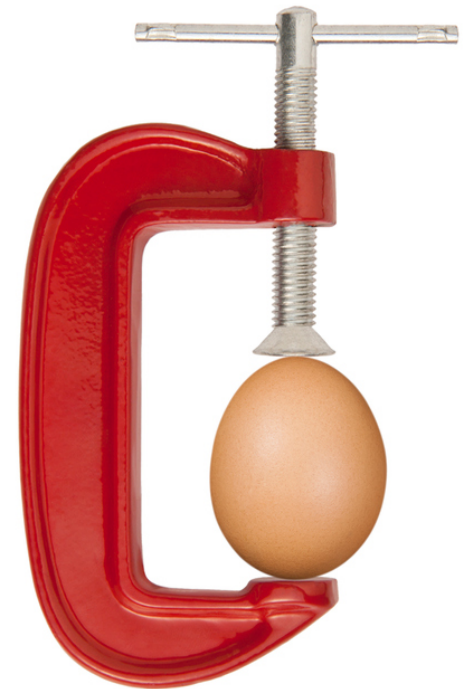Russell_hughes@trepp.com

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# Today's Agenda

1. Evolution of Regulatory Guidance and Expectations

2. Primary Deliverables

3. Getting From Here to There: Project Management

4. The Importance of Data

5. Building your Models and Systems

6. Nurturing the Process

7. Q&A

# Evolution of Expectations

**Regulatory guidance and expectations have grown over time.**

- **Key Regulatory Principles**
  - Sound Foundational Risk Management
  - Effective Loss Estimation
  - Solid Resource Estimation
  - Sufficient Capital Adequacy Assessment
  - Comprehensive Capital Policy & Capital Planning
  - Robust Internal Controls
  - Effective Governance

- Expectations evolve as your institution evolves in its risk profile and in its stress testing experience

- Documentation appears to have a higher level of scrutiny than pure forecast methodology complexity.   That should come later.

- Idiosyncratic risk profiles should be front of mind.

# Primary Deliverables
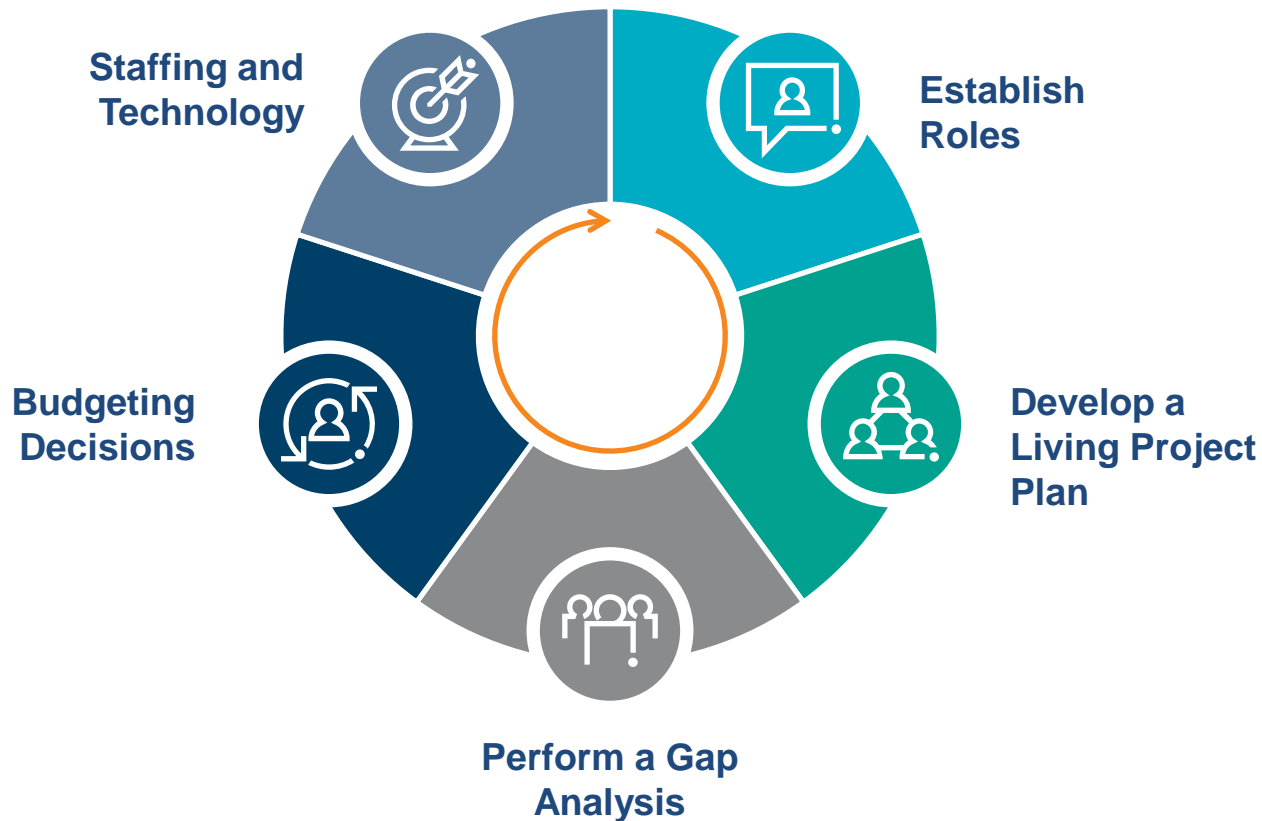
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> More than just delivering a forecast, its about demonstrating a quality process.

- Risk-based approach, quality, repeatable, controlled

- 3 forecasted scenarios with accompanying variables are provided:  Baseline, Adverse, and Severely Adverse

- 9-quarter Balance Sheet and Pre-Provision Net Revenue (PPNR forecast)

- Extensive process and methodology documentation

- Additional Regulatory Reporting

- Public Disclosure of results, minimums include

# Getting From Here to There: Project Management

**Early Decisions and Timing:** Our experience indicates it may vary by organization as based upon existing processes and time needed to perform a "Dry-run" we generally recommend 18-24 months of lead time. People, Process, and technology need to be considered and supported by adequate staffing and resources.



Staffing and Technology

Establish Roles

Develop a Living Project Plan

Perform a Gap Analysis

Budgeting Decisions

# People & Technology = Process

To be successful key stakeholders need to be identified and brought to the table. Stress testing is a cross-functional and participation needs to be widespread.

- Finance, Risk, Legal, Line of Business, Subsidiaries, Technology
- Decisions on Staffing, Budget, Technology
- Assumption and Forecast Creation
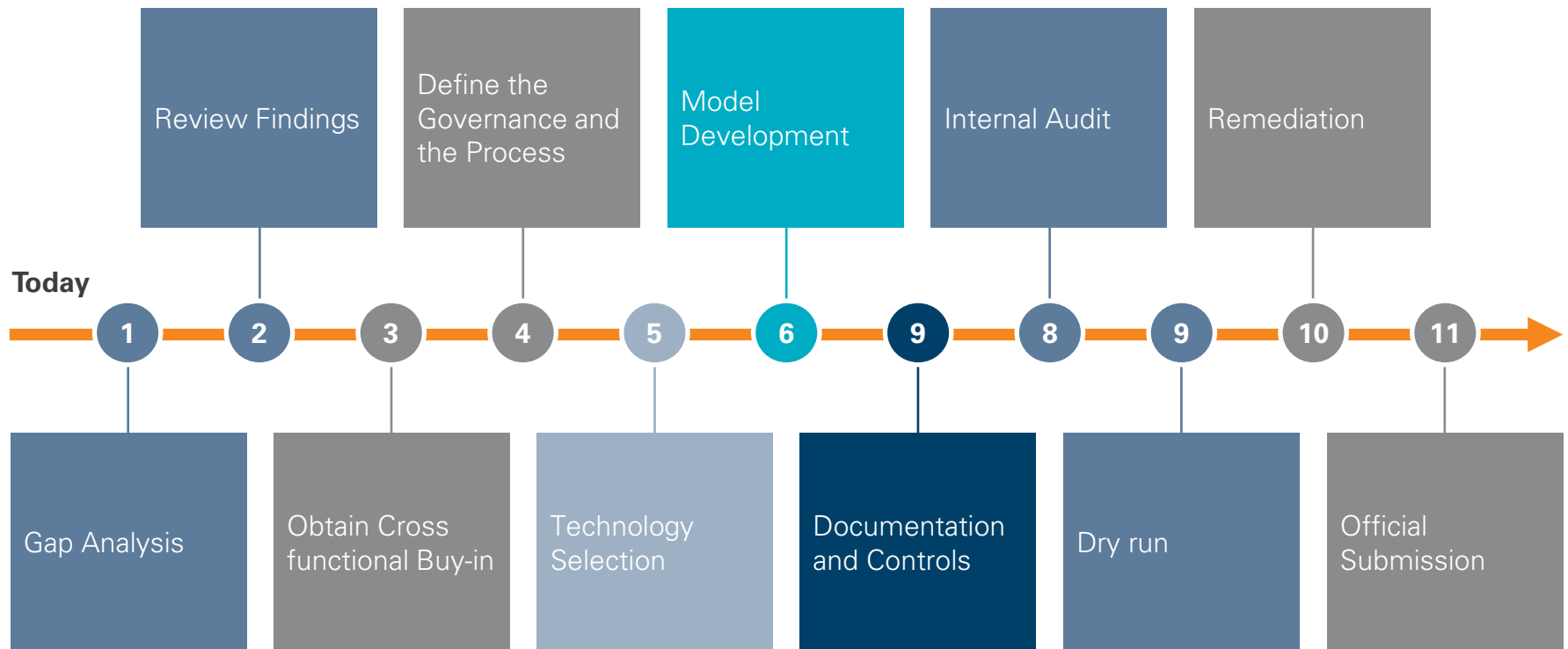- Review & Challenge
- Controls
- Documentation

**1st and 2nd Lines of Defense**

**3rd Line of Defense & the Board**
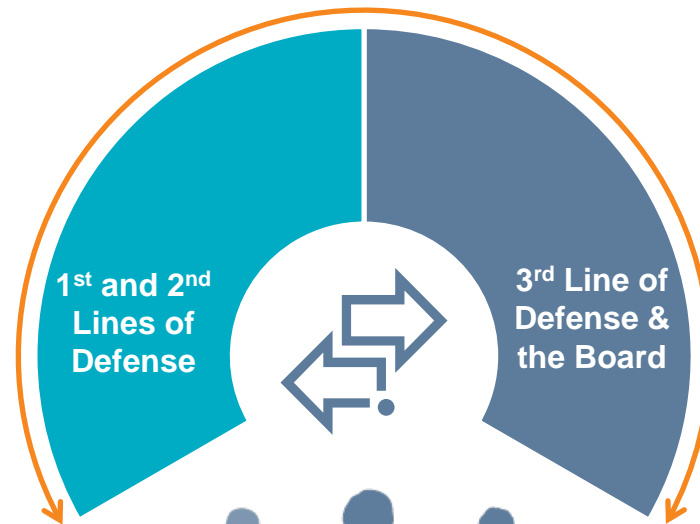
- Training
- Risk and Control assessment
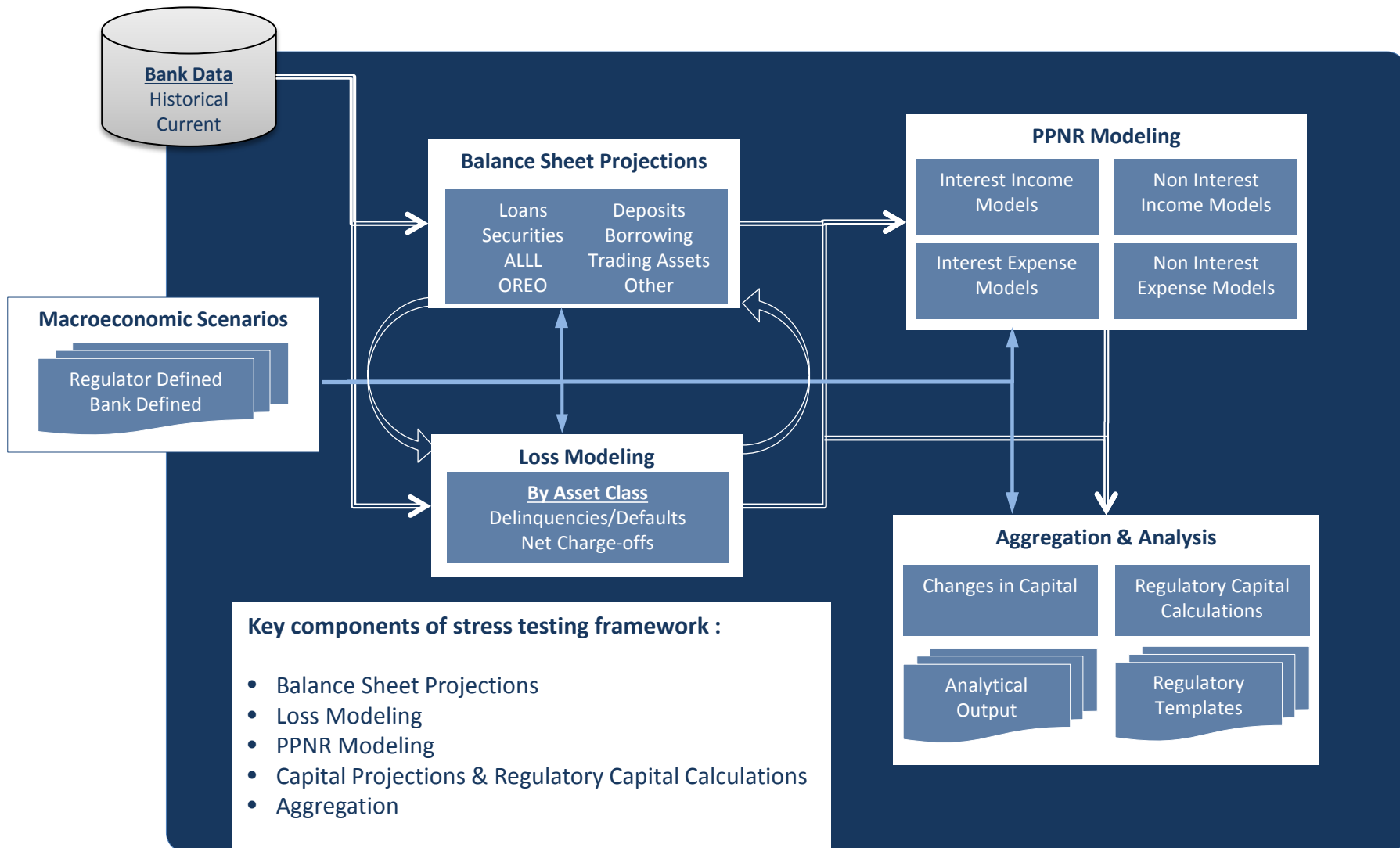- Readiness Assessment and Audits
- Review & Challenge

# Road to Submission

While the focus in the beginning is to create a DFAST Project, the goal should be to establish a Stress Testing Process.

**Today**

| # | Top Label | # | Bottom Label |
|---|-----------|---|--------------|
| 1 | | 1 | Gap Analysis |
| 2 | Review Findings | | |
| 3 | | 3 | Obtain Cross functional Buy-in |
| 4 | Define the Governance and the Process | | |
| 5 | | 5 | Technology Selection |
| 6 | Model Development | | |
| 9 | | 9 | Documentation and Controls |
| 8 | Internal Audit | | |
| 9 | | 9 | Dry run |
| 10 | Remediation | | |
| 11 | | 11 | Official Submission |

# Quantitative Framework



**Bank Data**
Historical
Current

**Macroeconomic Scenarios**

Regulator Defined
Bank Defined

**Balance Sheet Projections**

| Loans | Deposits |
|-------|----------|
| Securities | Borrowing |
| ALLL | Trading Assets |
| OREO | Other |

**PPNR Modeling**

| Interest Income Models | Non Interest Income Models |
|------------------------|----------------------------|
| Interest Expense Models | Non Interest Expense Models |

**Loss Modeling**

**By Asset Class**
Delinquencies/Defaults
Net Charge-offs

**Aggregation & Analysis**

| Changes in Capital | Regulatory Capital Calculations |
|--------------------|----------------------------------|
| Analytical Output | Regulatory Templates |

**Key components of stress testing framework :**

- Balance Sheet Projections
- Loss Modeling
- PPNR Modeling
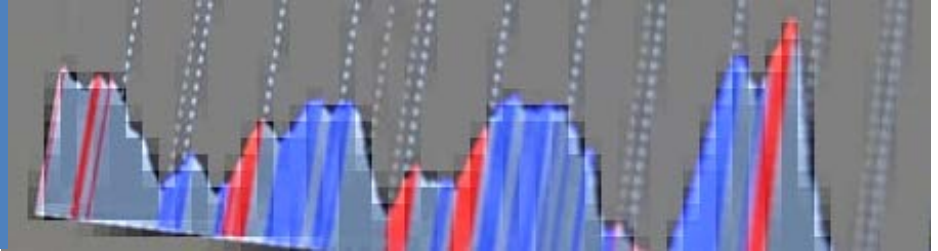- Capital Projections & Regulatory Capital Calculations
- Aggregation

# Data: A Fundamental Building Block

**Data requirements for stress testing create both operational and sufficiency challenges**

- **Analyzing, controlling, and reconciling data can be exceptionally complex**
  - Data is frequently flowing between multiple models and systems at differing levels of aggregation
    - Balance sheet projections, loss forecasts, and PPNR results must reconcile
    - Final results must be aggregated by regulatory template categories

- **Historical data is required to develop models and defensible forecasts**
  - Ideal data set for model development and forecasting will have:
    - Sufficient history
    - Adequate granularity
    - Details on credit attributes and performance

# Invest in Building Data Assets

Few banks currently have a complete ideal data set and the necessary supporting infrastructure
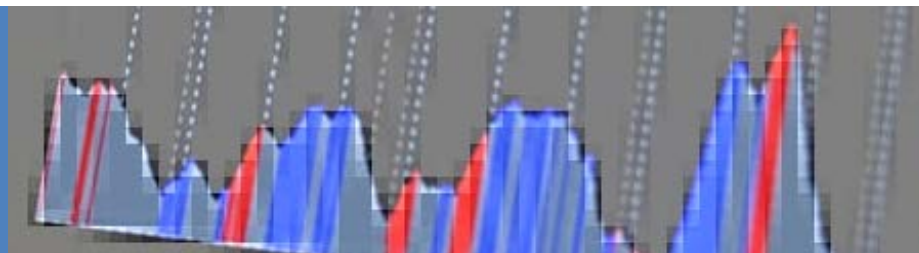
- **Take inventory of what is currently available**
  - Banks are often surprised to find that they have much more data than expected
    - Not uncommon to find that valuable data has been captured/stored for special projects
    - Servicing systems often have much more data available than is typically leveraged

- **Make data a management priority**
  - Executive sponsorship
  - Budgets and resources

- **If you aren't already doing so, start collecting data now**
  - Building usable data assets takes a long time
  - Try to anticipate future needs when identifying what data to collect

# Models & System

Where capabilities match needs, existing systems should be leveraged as part of the process

- Leveraging existing systems can help make stress testing a BAU activity instead of a regulatory compliance exercise
  - Inventory current systems
  - Evaluate suitability of existing systems for stress testing

- An investment in stress testing specific functionality will be necessary
  - Options include:
    - Custom systems
    - Purpose built, commercially available systems
    - Bolt-on's to existing systems.

# Models & System

Credit modeling is a key component of stress testing but other projections

- **Focus of modeling efforts**
  - Credit is typically top priority
    - Typically only 3-4 asset classes material
  - PPNR is typically also a key negative driver of capital

- **Model development decisions**
  - Build vs buy
  - Data source(s)
  - Modeling methodologies

| Drivers of Tier 1 Capital Change Baseline vs Severely Adverse* | | | |
|---|---|---|---|
| | **Baseline** | **Severely Adverse** | **Delta** |
| **Beginning Ratio** | 12.40 | 12.40 | - |
| **PPNR** | 4.44 | 1.88 | (2.56) |
| **Loan Losses** | (0.61) | (3.52) | (2.91) |
| **ALLL** | (0.32) | (1.42) | (1.10) |
| **Income Taxes** | (1.13) | 0.97 | 2.10 |
| **Dividends** | (1.82) | (2.01) | (0.19) |
| **Other** | 0.06 | (0.03) | (0.10) |
| **RWA** | (2.39) | (0.12) | 2.27 |
| **Ending Ratio** | 10.62 | 8.14 | (2.49) |

*Average of 50 DFAST Banks Q1 2016 results*

# Nurturing the Process

While the initial focus is on building a compliant DFAST deliverable, an integrated perspective and process should be the goal. Stress Testing tools and processes can be leveraged by other bank functions.

Emphasize communication, build relationships across these functions.

| Automation | Deeper Analytics | Evolve Data, Modeling, and Tech | Internal Controls |
|---|---|---|---|
| • Automation supports a more efficient control structure and speed of execution | • Answer the Hows and the Whys<br>• Leverage the Stress Testing process for strategic planning and idiosyncratic analysis<br>• Reporting should illuminate and communicate the analytics | • Internal data is a key driver of forecast methodology and segmentation<br>• Stronger data will support stronger Risk Management<br>• Model what matters<br>• Technology Returns on Investment can be high if open to change | • Balance between too many that slow the process down vs. critical controls that support success<br>• Evolve them with the underlying process |

# Questions & Answers

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