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Together makes progress

Finance Forward Event

Breakout

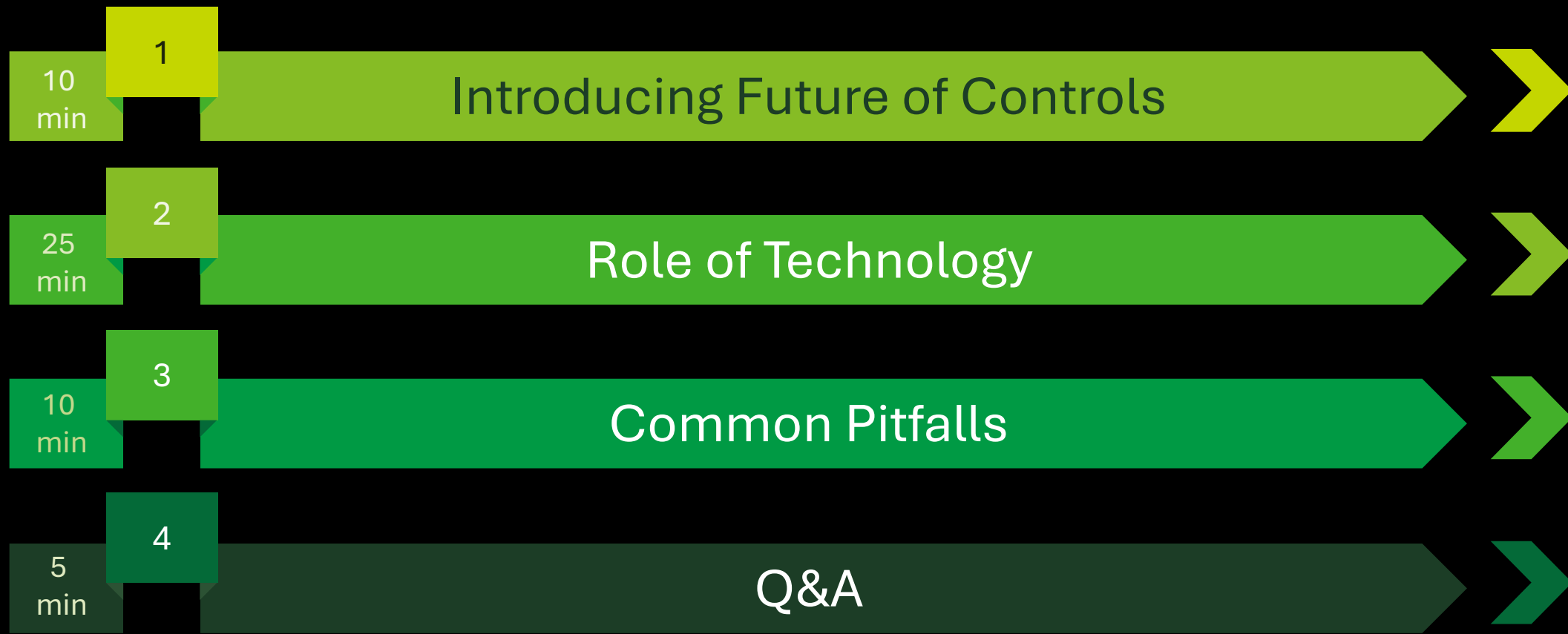
Technology enabled
Future of Controls

Amsterdam, 12 March 2026



Agenda

Finance Forward Event - Breakout - Technology enabled Future of Controls





Introducing Future of Controls

What is Future of Controls?

1

Reconstructing the internal controls framework

Adopting a data-driven approach to ensure risk alignment and a true integration between risk and controls, ultimately resulting in value creation

2

Designing the next generation controls operating model

Using technology, capability, culture, and incentives to embed ownership and accountability with the first line, while integrating the second line

3

Establishing the controls technology ecosystem

Deploying next-generation technologies (e.g., automation/artificial intelligence (AI)) to drive foresight and insights from controls, and moving away from the existing hindsight approach

Future of Controls – three key levers

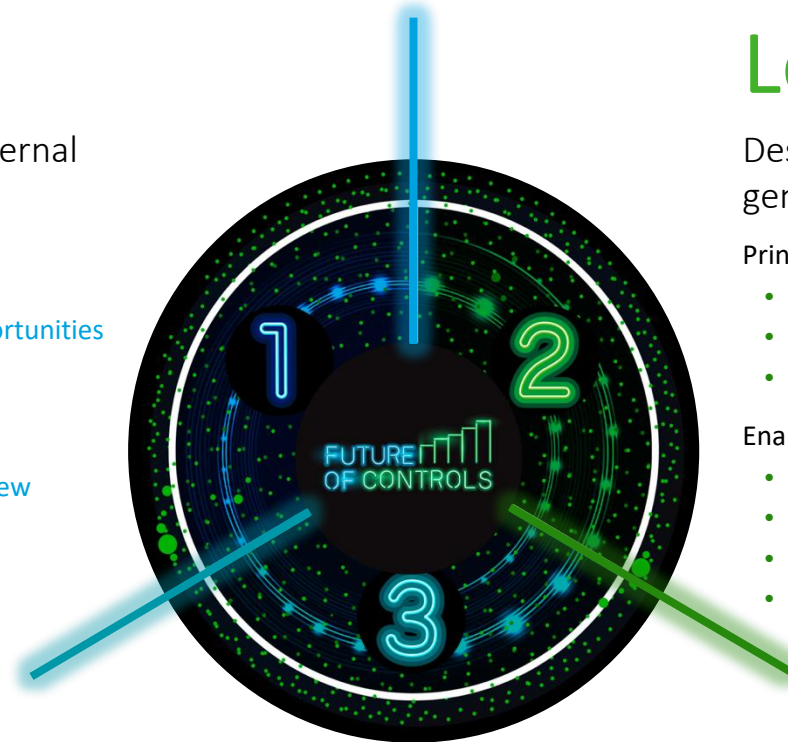


Future of controls is about building that trust and addressing the challenges by transforming the controls and compliance landscape

Lever 1

Reconstructing the internal controls framework

- A data-flow based controls framework
- Integrating risks and opportunities
- Balancing between rules and principles
- Value creation
- A multi-faceted holistic view of controls



Lever 2

Designing the next generation controls

Principles:

- First-line ownership and accountability
- Shared ambition
- Integrated second line

Enablers:

- Incentives
- Capability
- Culture
- Technology and Data

Lever 3

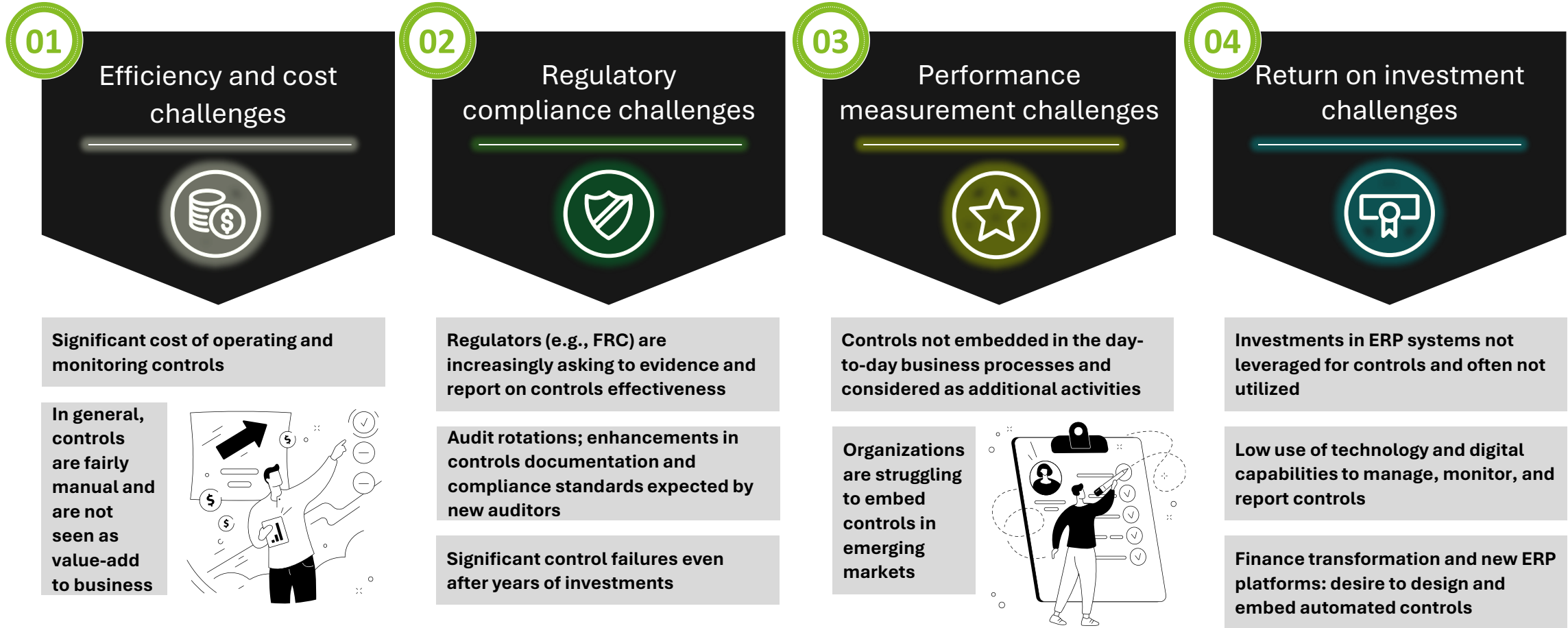
Establishing the controls technology ecosystem

- What to control
- How to control
- How to assure
- Culture

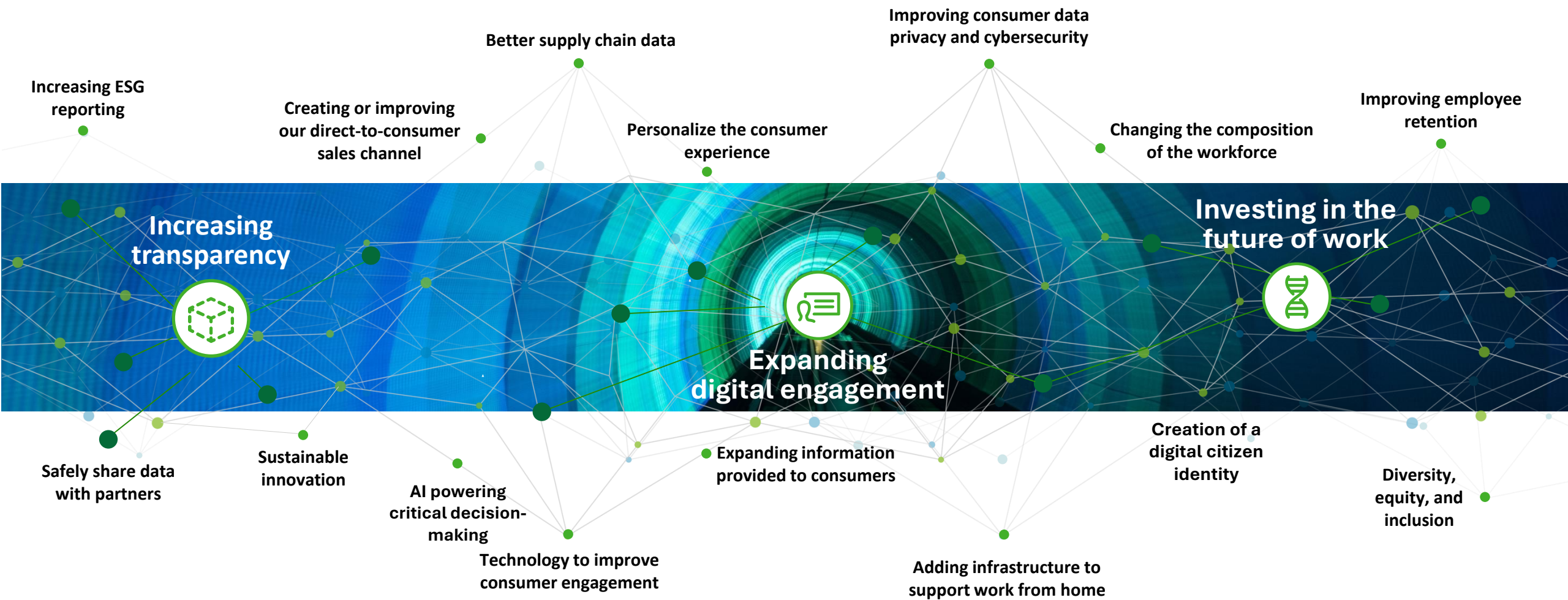
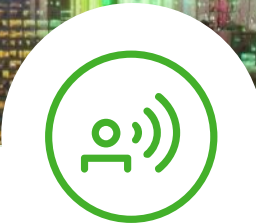
Why Future of Controls?



The case for FOC: Businesses want an efficient and effective framework that is practical, pragmatic, aligned with the risk appetite, and business performance driven.



The battle for 'trust' will challenge and reshape the future of controls



Possibilities – Controls strategy and operating model



We help clients to develop innovative solutions, build trust, and discover previously unseen opportunities.



We help set controls strategy, and design and implement the controls operating model that aims to successfully deliver controls commitments and help organizations achieve their vision. The key elements to focus on:

Skills and capabilities:

Capable and skilled controls owners/operators, supported by a continued focus on skills and capability enhancement.



Controls culture:

A positive controls culture that focuses on winning the hearts and minds, setting up the business for success, and providing continued support to control owners/operators—ultimately driving ownership and accountability.



Rewards and consequences:

A strong tone from the top promoting controls, supplemented by a balanced approach around rewards and consequence management.



Shared ambition and integrated structure:

Shared mission to embed controls in the front line and integrated second-line functions driving consistency, quality, and a single version of the truth regarding the organization's controls environment.



Technology and data:

Adopting a technology enabled approach using automation and AI enables businesses to see beyond oversight and move toward foresight, to identify emerging risks before they make an impact.

Possibilities – Controls automation



We help clients to develop innovative solutions, build trust, and discover previously unseen opportunities.



We help automate controls operations, monitoring and assurance through ERP design by automating controls evidence and workflow management and introducing non-standard developments like robotic process automation, artificial intelligence, and machine learning to operate and monitor controls. The key elements to focus on:

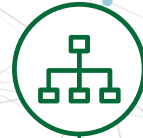
Controls configuration:

Utilize in-built system configurations to validate business transactions.



System reports:

User friendly, meaningful, risk-based reports to support review and validation.



Workflow:

An automated review and authorization flow designed in alignment with the authorization matrix.

Controls evidence:

Smart ways to evidence controls operations and retain evidence.



Non-standard developments:

Specific bespoke system developments to operate and manage controls including RPA.



Possibilities – Controls monitoring and assurance



We help clients to develop innovative solutions, build trust, and discover previously unseen opportunities.



We design and implement the next generation controls monitoring and assurance programs that not only help organizations to obtain a transparent and real-time picture of their controls environment but also assist them to undertake data-driven business decisions.

Controls monitoring:

- **Analytical monitoring:** Analytical review of transactions to monitor controls performance.
- **Continuous monitoring:** A real-time monitoring of business transactions and compliance with the set rules and regulations.
- **Exception analysis:** Analyze trends and parameters to identify and monitor deviations and exceptions.



GRC Platform:

- **Documentation:** Detailed documentation of risks, control objectives, control descriptions, control activities, control owners, and control frequency (key process and entity level controls).
- **Communication:** Support communication of the risks and controls across the organization.
- **Evaluation/testing:** Assessment of controls design, controls operating effectiveness, aggregation of deficiencies, controls exception documentation and remediation tracking, certification, and annual signoffs.
- **Reporting:** Reporting controls status (design as well as controls operating effectiveness) covering the entire organization as well as reporting by individual SBUs, regions, Group through dashboards and various easy to use visualization modules.
- **Issues and actions management:** Tracking of controls exceptions, remediation, controls, and process improvement.
- **Learning and awareness:** Support learning and awareness of controls through training, awareness campaigns, attestations, self-learning e-modules.
- **Incident and case management:** Support documentation of unusual incidents, investigation and reporting of special cases in alignment with other organizational tools.
- **Organization hierarchy:** Support maintenance of the organization hierarchy in the tool to ensure appropriate workflow and authorization.

Technology can support the 'Future of Controls' by leveraging automation and AI capabilities native to the IBM OpenPages platform



Role of technology

OpenPages Key Pillars

Our GRC roadmap vision

Cater to all users 1st, 2nd, 3rd lines
Governance Risk and Compliance program can only be successful if the 2nd and 3rd users can efficiently engage with the 1st line

Empower

1st, 2nd, 3rd line

Task focused UI
Customizable Dashboard
Ease of use and navigation
Infused with AI

Learn

Useful to all stakeholder

With thousands of users on the platform, with vast number of information for all the use cases deployed, the data available in OpenPages is important to the business to learn from, to train AI

Tagging framework
In-application reporting
Digital twin

Build

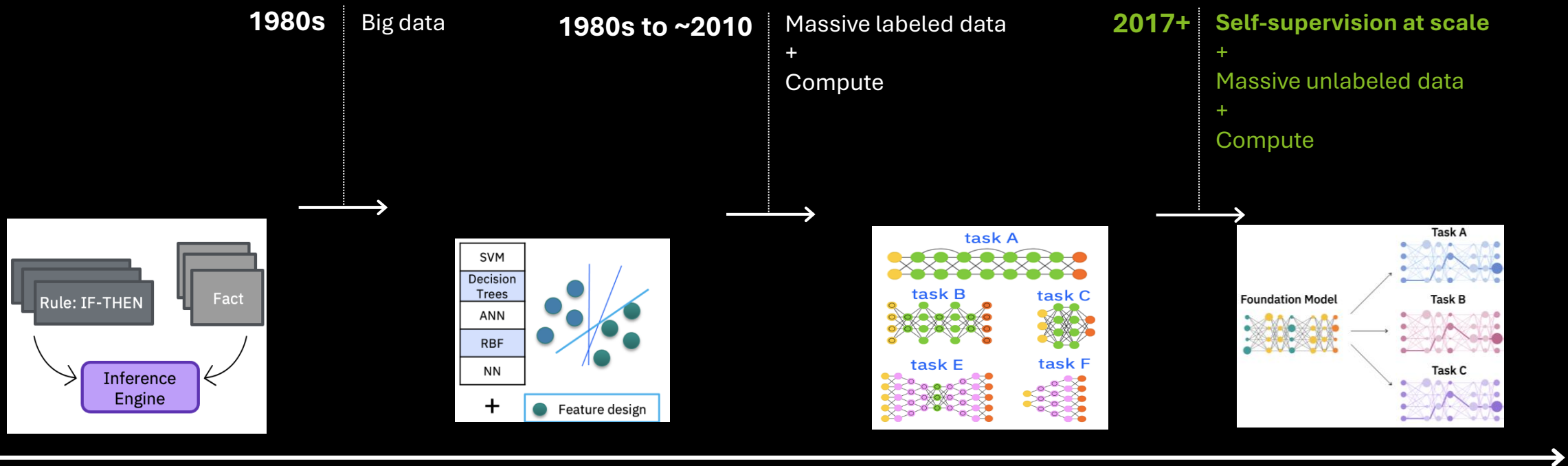
Admin - Use case Adoption

Provide administrators the ability to quickly develop, maintain new use cases through configuration (not customization)

GRC Workflow
Scheduler
Real time Calculation engine
View Designer
Bring your own Models (BYOM)

The AI journey for IBM

The story of AI is also the story of Data



Expert Systems

Hand-crafted symbolic representations

1956 - First practical example of artificial intelligence by Arthur L. Samuel of IBM's Poughkeepsie, New York, Laboratory programmed an IBM 704 machine

Machine Learning

Task-specific hand-crafted feature representations

1997 – IBM Deep Blue defeats world chess champion Garry Kasparov.

Deep Learning

Task-specific learnt feature representations

2011 – IBM Watson wins 'Jeopardy!' against top human champions.

2013-2020 – Watson services (Developer Cloud, Discovery Advisor, Assistant, NLP Library, etc.).

Foundation Models

Generalizable & adaptable learnt representations

2023-present – Watsonx (Large Language Models LLM's, IBM Granite LLM foundation-model platform, watsonx.ai, watsonx.data, watsonx.governance, watsonx.orchestrate AI Agents).

Demonstration of technology capabilities – control quality

5 W model

Analyze the control description to try to identify the Who, the What, the When, the Where and the Why(5Ws)

Content Generation

provide suggested text with taking into account all 5W aspects

Increase data quality and consistency

LinkedIn Video Post: <https://lnkd.in/eU7fKggr>

6 min

Demonstration of technology capabilities – risk assessment

Questionnaire analysis

AI automatically analyze questionnaires.

Content Generation

Questionnaires are essential for risk management whether assessing vendors in TPRM Third Party Risk Management, evaluating applications for IT risk, or conducting AI use-case assessments for AI Governance.

LinkedIn Video Post: https://lnkd.in/e4hi_D7p

5 min

Demonstration of technology capabilities – risk quantification

Risk Quantification

AI to generate risk quantification based on the documented controls, issues, KRIs, and past loss event or incidents — without running a Monte Carlo or tuning a heavy statistical model?

LinkedIn Video Post: <https://www.linkedin.com/feed/update/urn:li:activity:7345925749494718464/>

3 min

Demonstration of technology capabilities – control mapping

Control Mapping

identifying relevant controls for an issue in OpenPages. With NIST 800-53R5 offering over 1,000 highly granular controls and control enhancements, the challenge was whether the model could pinpoint the most relevant ones

LinkedIn Video Post: <https://lnkd.in/ewZ5XBNE>

3 min

Smarter GRC with AI and safer with AI

The advantage of AI in Risk and Compliance

- **Bridging AI and Governance** - a unified platform for integrating AI into GRC (AI4GRC) while ensuring AI remains trustworthy and compliant (GRC4AI)
- **Flexible AI integration** - a configurable framework that supports **any AI, for any use case**, enabling fast deployment and long-term adaptability
- **Scalable AI skills** - Pre-packaged AI skills embedded directly into user views support a wide range of use cases at scale (summarization, translation, and categorization)
- **Agentic AI for GRC automation** - integration with watsonx Orchestrate enables agent-based automation for risk and compliance functions such as autonomous issue, risk and control management, policy execution, and regulatory analysis
- **End-to-end governance** - A comprehensive toolkit to manage risk, ensure compliance, and govern the full AI lifecycle - from model development to deployment and monitoring with integration with IBM Security and watsonx.governance



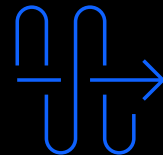
Promote a culture of risk recognition and compliance awareness



Increase data quality and consistency



Enrich, guide, and help the user to provide the right information



Automate processes and optimize employee productivity and accuracy

AI Use Case Examples in OpenPages

Selected examples relevant to Finance domain

Use Case	Benefit & Business Value	Value Impact
5W Control Analysis Determine quality of documented controls using 5W model (Who, what, when, where and why)	Improved quality of control data and downstream processes for control assurance and testing.	HIGH
Create/Suggest action for issues	Allow to automatically create new action items for an issue	MEDIUM
Coverage review / Update Obligation/Control or Policy/Obligation, Risk/Control Coverage	Automatically identify whether 1 activity covers the required related information: Are my controls sufficient for the obligation mapped? Is my Policy sufficient for the Obligation mapped? Is my Risk covered by the controls, is there any gaps?	HIGH
Semantic Data Similarity Identify similar instances of data (e.g. incidents, risks, issues) across business units to share learnings and remediations from previous occurrences.	Learn lessons from previous mistakes and share findings across the business.	HIGH
Obligation Generation Identify and generate obligations on regulatory change.	Reduce time taken to create an obligation. Simplify obligation language for non-compliance staff.	HIGH
Auto tagging Automatically add tags to records within OpenPages.	Aids in creating accurate tags by filter. Creates a system where tags become more used due to auto identification	MEDIUM
Emerging Risk General potential emerging risk scenarios.	Proactive, forward looking risk analysis.	MEDIUM



Common pitfalls and Key Trends



Structure

- ❖ Lack of GRC governance, holistic strategy, vision and socialization
- ❖ Project team has insufficient mandate to propagate the change
- ❖ Big Bang versus phase approach
- ❖ Insufficient “Top-Down” support
- ❖ Underestimated resource and projected timelines
- ❖ Under preparedness to incorporate the wider regulatory landscape
- ❖ Establish roles and responsibilities for the governance of development activities to avoid siloed development



Way of working

- ❖ Insufficient requirement definition, also due to lack of knowledge of the chosen technology
- ❖ Varying risk and compliance framework across functional areas
- ❖ Silo approach to implementation of modules
- ❖ Over-customization
- ❖ Establish comprehensive GRC framework that can be implemented across the business
- ❖ Missing documentation



Involvement of end users

- ❖ Incomplete representation of key users during the selection and procurement process
- ❖ No clear shared vision on end state and integration of functionalities and usage
- ❖ Lack of involvement of the correct representation of the key end users during decision moments
- ❖ Incomplete knowledge transition to tool support teams for technology and framework
- ❖ Ineffective training for end-users with the incorrect messaging and tone

Key trends influencing the Future of Controls



Key Trends

Taken separately, each trend represents an important guideposts along the Future of Controls journey. More importantly, when taken together, they can help organizations reach their future controls destination.

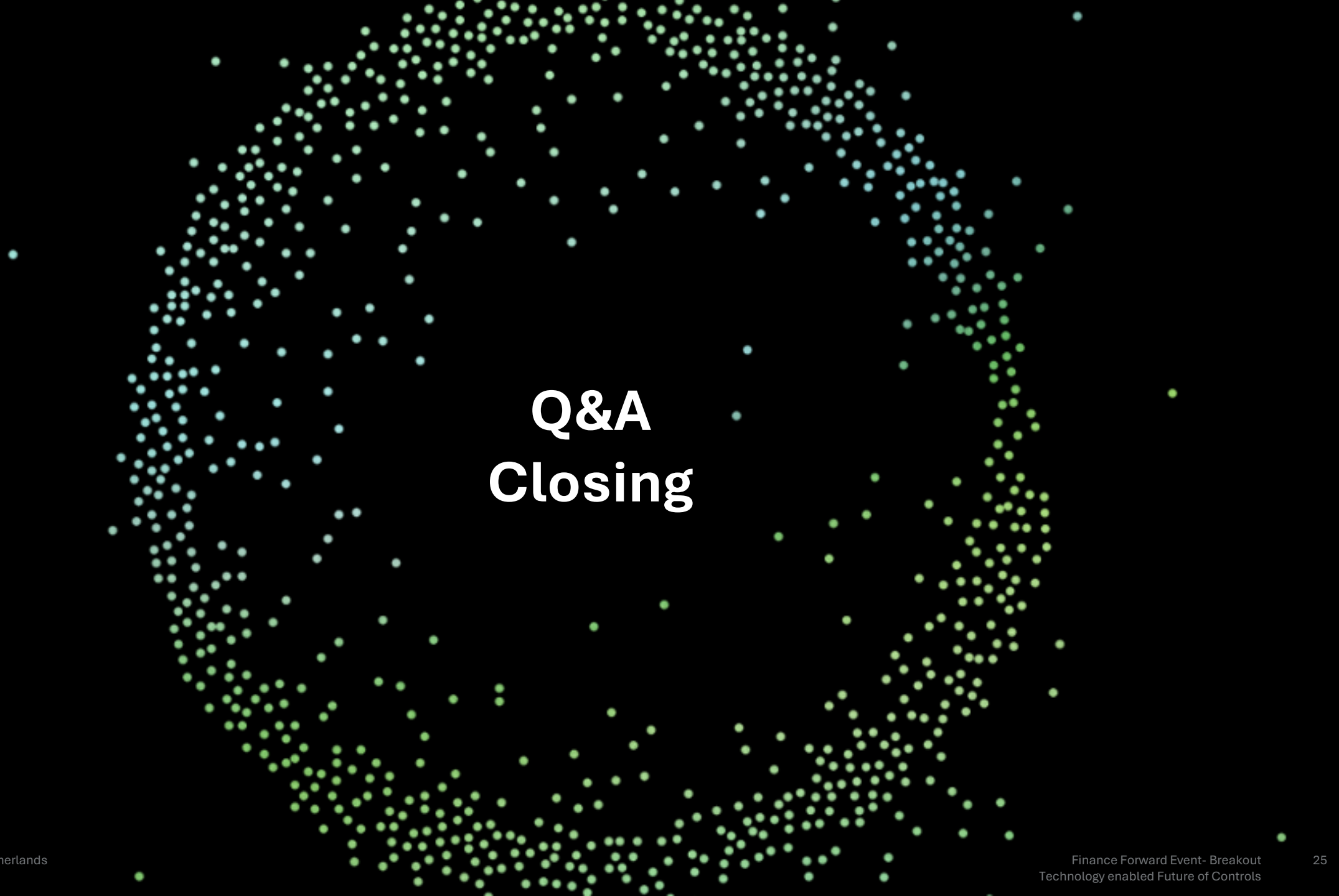


Key trends influencing and reshaping the future of controls



- Companies are rapidly adopting technologies to enhance customer experience and capture market share, but not the same adoption rate to benefit controls programs. While there remains significant investment due to the highly manual nature of most programs, in part due to limited effectiveness of legacy systems, companies are not currently seeing the returns.
- Going forward, companies should utilize technology as an enabler to be more efficient, effective, and impactful in risk operations and controls. During the transformation journey, organizations can implement digital assets that go beyond singular purpose controls from the outset to maximize their application and effectiveness.
- In the future, we will have the ability to perform controls supported by AI enhanced technology to improve the way we monitor controls environments and focus efforts in non-compliance areas—moving from “hindsight to foresight.”

“Organizations are tired of only hearing about issues after they have occurred. The Future of Controls can help identify issues before they occur—moving from hindsight to foresight.”



Q&A Closing