watsonx

AI for Business

Thomas Kovsted – CEO IBM DK

The opportunity

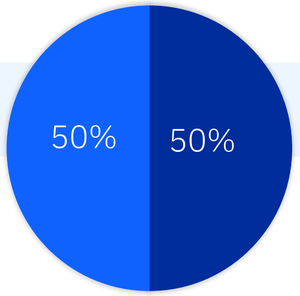
$3 Billion

in productivity

$1.6B delivered in productivity with Automation & AI

2023

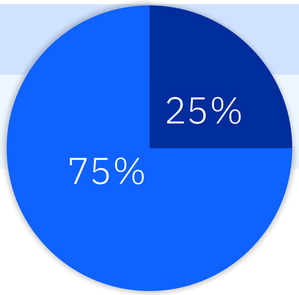
Eliminate. Simplify. Automate.



- Automation
- AI

2024

+AI -> AI+



- Automation
- AI (40+ use cases already in production)

Enterprise Performance Management	Customer Support	IT Modernization	Digital Labor	HR Transformation
Automation **watsonx** assistant **watsonx**.ai	**watsonx** assistant IBM Cloud Pak for Data	Turbonomic Hybrid Cloud Ansible Automation and **watsonx** Code Assistant	**watsonx** assistant **watsonx** discovery **watsonx** Orchestrate	**watsonx** assistant **watsonx** discovery **watsonx** Orchestrate
$200M in business value	$165M annualized operational savings	$100M+ optimization	80% of top IT issues addressed by AskIT	40% savings in HR operating budget

Proven, high impact use cases as starting points with IBM

Supply Chain

150M

Cost savings annually

- From days to instant reaction
- Single pane of glass for 20+ legacy SC applications
- Advising on order prioritization, supply risk & rebates optimization

- 10M+ shipments managed/y in a complex n-tier network
- 98% on-time SLA delivery
- 170 countries

- Generate queries/reports to gain instant SC insight
- Augment cross domain collaboration & complex enterprise decision making
- Automate admin tasks

Digital Labor

40%

improvement in HR productivity

- 280 AI automations
- 85% reduction in back-office staff
- 94% of cases solved by virtual assistant

85%

Of all procurement cases completed w.o human intervention

- Talent acquisition
- Performance management
- Employee data management
- Employee communications
- Learning & event management

Customer Care

90%

contact center cases contained by conversational AI

- 25-point increase in NPS
- 26% cycle time reduction for classification and routing
- Automating answers with 95% accuracy
- 7800 jobs fully automated by AI

- Customer profile / demographics
- Case deflection
- Agent intent efficacy
- Agent assist
- Mobile FAQ w/ answers
- Internal service desk

App modernization

60%

productivity gain in application modernization

- Automated code conversion with up to 95% success rate. 73% “out of the box”
- AI used to map application. data & code dependencies
- Recent examples from DK: +80% automated conversions & 40K code lines reduced to 3K

- Automated code generation
- Customizable standards
- Playbook generation
- Model tuning
- Code attribution

Use Case: Supply Chain

Transforming supply chains with **watsonx** Assistant and **watsonx.ai**

Challenge

Supply Chain leaders need actionable real-time supply chain visibility to orchestrate their end-to-end supply chain network, identify and understand the impact of external events to predict potential disruptions, and take actions based on recommendations to mitigate risk and any negative impact.

Unfortunately, most traditional ''Supply Chain Control Tower'' solutions don't work:

- Every supply chain is different
- The Supply Chain application landscape varies widely
- Data types, locations, and structures are rarely the same
- Use cases and personas have distinct needs
- External trading partner data is hard to integrate and synchronize
- Business priorities shift faster than the speed of IT

Solution

With our watsonx Assistant, we augment professionals to detect anomalies early, to more quickly understand any disruptions and efficiently manage any constraints. The solution contains:

- AI-enabled, predictive alerting for demand changes, supply risks, order exceptions, shipping delays, transportation incidents, etc.
- Natural Language Processing to enable decision-makers across supply chain, finance and sales to improve collaboration and gain insights by simply asking questions
- watsonx.ai and multiple foundation models to flexibly generate SQL queries on real-time data on demand
- AI prescribing best actions to reach on-time delivery, cost, and quality targets even in extreme business situations

$150M — In annual cost savings

Instant Resolution — Reduced from days to seconds

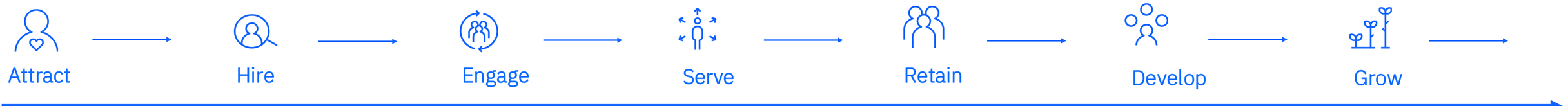
+10pts — NPS due to ease of data access across all supply chains

95% — More efficiency with application of watsonx

Blog

Solution includes: **watsonx** IBM Cloud Pak for Data

Generative AI can increase efficiency, effectiveness, and experience across the HR lifecycle



Improving candidate experience

- Using specialized chatbots to help identify high-quality candidates' to prior application
- Engaging job seekers from first interaction
- Skill matching algorithms to match roles to candidate's resume and provide recommendations

Efficient and effective recruitment

- Prediction of time to fill job opening
- Assist in identifying a match between resume and job requisition
- Writing more inclusive job descriptions

Enhancing motivation

- AI talent alert for managers helping to make decisions on team members regarding promotion or interventions for improvement
- AI engagement analysis to analyze social media content from inside the company

24/7 employee interaction

- Chatbots and conversational HR to improve employee experience by providing answers at any time
- Improving efficiency in interactions through workflow automation

Smarter compensation planning

- AI-powered compensation decision support tool to reduce time spent on compensation cycles, while providing decision advice that examines many more variables than previously considered

Personalized learning & real time skills inference

- Using AI to infer skills from internal digital presence of employees to find hidden talents, monitor skills related to business needs, and identify skill gaps
- Data sources: resumes, sales information, digital badges

Career development

- Career coaching usually constitutes a time intensive and expensive task. But using AI for career coaching allows everyone in the organization to benefit from high quality career advice
- Benefits include higher employee motivation and overall increase in job performance

Watson reducing the time to hire by up to 60%

Watson answering 500K+ employee requests/year saving 17K hours and $3.1M annually

Watson is developing personal learning paths saving $50M + per year in proactive retention

Unlocking HR productivity

Solutions include: watsonx Orchestrate

Name	Process Application	Watsonx Orchestrate Capabilities	Outcomes
sHeRlock	Expense fraud detection	• Data analytics to detect fraud through anomalies in expense data • Communicate via mail with employees and handle queries • Setup overpayments, recover funds	• Increased scope of financial recoveries from top 10% to now 100% of recoveries possible =~$2M • 6,000 hours saved for Expense Management team
HiRo	Quarterly promotions	• Learns criteria for promotion and provides managers with selection options • Handles communications with managers throughout the process • Loads selections to HRIS	• 50,000 manager productivity hours saved per year (NA region only) • 85% HR Business Partner time savings quarterly • 100% criteria and load accuracy
cHaRlie	Learning class management	• Display upcoming classes with low enrollments • View, promote, cancel and communicate classes • All actions can be taken within the cHaRlie interface	• 16,000 Learning Event Manager hours saved annually • 2,000 IBMer hours saved through auto-class promotion • Managing 11,000 classes organized per year
HeRmione	Talent Acquisition requisition creation	• Scans internal and external sources for job role-matching content to input into requisition • Posts requisition to relevant digital job boards • Manages stage communication with candidates and manager	• Notify recruiter/hiring manager, collect, organize and validate data, prepare and create the requisition. • Eliminate 80% of the time spent gathering and loading requisition data
HaRmony	Mergers & Acquisitions Employee integration	• Load of employee data set to multiple databases. • Creation of org structure placement of acquired employees to the right place/department to existing IBM structure. • Supervisory org creation in Workday/Success Factor	• 90% of tasks within process are made by digital employee • Approx. 15 500hours saved by the process automation • 3 weeks end to end process (instead of 6 weeks
HaRper	Colorado Wage Transparency Act, effective Jan 1, 2024	• Disclose key information to employees with whom the employer intends a new hire or transferred/promoted employee to regularly work, within 30 days after selection.	• Avoidance of legal penalties • Elimination of tedious process • Resource saving • Audit trail to prove compliance with legal requirements

Using **watsonx** to deliver a digital-first employee experience

AskIT
Digital-first IT Support

Challenge

The IBM Chief Information Office (CIO) supports over 280,000 employees and with a broad range of IT queries. The team receives around 785,000 IT support tickets each year and was looking for new ways to increase their productivity.

The company does not want individuals distracted from transformational initiatives and client interactions because they are waiting for the resolution of a routine IT issue, like a password reset. Nor does it want IT support professionals bogged down in repetitive tasks that could be handled with automation and AI.

Solution

As a result, IBM CIO launched AskIT which uses the AI and natural language processing (NLP) capabilities of watsonx Assistant to surface resolutions to address critical support topics. It is trained on 80% of the IT issues the company faces most frequently and covers more than 200 common support topics in more than 40 languages.

In the four months since AskIT's release, over 133,000 IBM employees used the tool at least once. AskIT has allowed IT support staff to shift their focus to providing high touch support, handling more complex and critical issues. In addition, the global, 24x7 availability of the new assistant has enabled IBM employees all over the world can get their questions answered quickly.

100 days to build and deploy AskIT from scratch

80% of IBM's top IT issues can be addressed with AskIT

409K AskIT sessions since launch

50% reduction in ticket volumes since launch of AskIT

Solution includes:
watsonx.ai
watsonx Assistant

Blog

Ending the data chase and creating a catalyst for faster decision making

Challenge

To compete effectively in the high growth areas of Hybrid Cloud and AI, IBM had to accelerate decision velocity and drive enterprise productivity. Historically, IBM had fragmented and overlapping work, systems, and data models that made it difficult to consistently deliver business insights. Significant time was spent consolidating data for reporting, which required a IBMers to work as “human glue” pulling data from different systems and manually putting data together in spreadsheets and slide presentations. In fact, 63% of an analyst time was spent producing reports instead of generating insights. This was highly unproductive. IBM had 40K meetings a year across the company simply focused on reviewing data. It had an IT reporting sprawl with 70K report types and over 300 reporting apps.

Solution

IBM created an Enterprise Performance Management (EPM) platform as the trusted source of integrated enterprise data and a catalyst for faster decision making. Based on one enterprise data model, EPM integrates data from all trusted enterprise sources across geographies and business units, breaking down historical data siloes. EPM standardizes KPIs and aligns data to enterprise data standards to deliver interactive dashboards and a culture of working “on the glass”. This leads to more proactive analysis and action, driving IBM’s growth and enterprise productivity.

$200 million in business value from EPM

25 thousand unique EPM users in 2023

70% enterprise workflows enabled on EPM across IBM

300+ reporting applications aggregated through a single data model and platform

18 TB of integrated enterprise data

Use Case: Digital Labor – Sales & Finance

Optimal price recommendations using Artificial Intelligence

Applying data science models and **watsonx** to deliver “touchless” financial forecasts

Personalized Sales Content Delivery with **watsonx** Orchestrate

Creating a Digital Sales AI Assistant with **watsonx** Orchestrate

41%	quotes accepted by clients with Optimal Price
40%	financial planning & analytics productivity gains
20%	Increase in engagement opportunities
50-70%	Reduction in time spent on performing tasks such as creating prospecting lists, generate tailored sales pitches at industry, company and use case level, etc

Use Case: Digital Labor - Contracts

Identifying risky language in contracts with **watsonx**

Challenge

Contract management is an important daily task for IBM dealing with both buy side and sell side contracts. Governing documents are written by scores of people and prescribe the terms under which business relationships are conducted. A well written contract is necessary to avoid contracts getting into disputes and claims.

“Terms” in contracts and language used in the contract can lead to disputes and claim resulting in negative gross profit for a company .

Consulting Global Quality goal is to drive quality end to end through the processes from solution design to bid release and right into delivery.

Solution

IBM’s Quote-to-Cash Transformation team & CIO built the Contracting Language Analyzer, an AI solution that enables risk mitigation prior to contract signing and makes risks available to Sales & Delivery teams once contract is signed.

The Contract Language Analyzer leverages Watson Discovery Contract enhancements technology, IBM Research Deep Learning Models along with Watsonx to deliver the functionality required for analysis in the Cloud.

Watsonx breaks down dense legal language, at scale, turning volumes of contractual content into actionable insights for business professionals.

It responds to multiple use cases :

- Enables de-risking of contract through application of risky words dictionary
- Enables profiling of the contract of specific terms, conditions, attributes and words
- Provides additional classification for project and service delivery including deliverables, key dates, Service Level agreements and data governance

$22M

Revenue leakage saved FY2023

40K

Hours saved analyzing and remediating contracts FY2023

$4.5M+

Productivity savings FY2023

Solution includes:

- watsonx.ai
- watsonx Discovery

Use Case: Customer Support

One example is with case summarization using **watsonx**

Challenge

IBM, with its highly variable landscape of products and users, had to deal with a variety of complex support cases. Nearly 25,000 support agents excelled at providing resolution to over 3 million cases a year, but faced the onerous task of manually writing summaries of resolved cases for future knowledge reuse.

Manual summarization hindered the ability to derive valuable insights from all available case data, limiting the potential for informed decision-making and strategic improvements.

Solution

What used to take an agent thirty-five minutes to pore over potentially hundreds of pages of technical conversations is now automated with watsonx, amounting to an estimated 124,861 hours saved each quarter. These summaries are automatically generated for nearly all cases, whereas previous constraints only allowed for 10% of cases to receive proper documentation.

IBM leveraged watsonx.ai's LLM models and a processing pipeline to automate summarization of Support Cases at the time of closing. They implemented API middleware that connected the Cognitive Support Platform to the watsonx.ai system, extracting and shaping text from cases into prompts and reshaping results to fit back into the platform.

$86M annualized operational savings

125,000 hours saved per quarter from unique case summarization

214,000 cases summarized at closing per quarter

71 days from **watsonx** GA to production of case summarization

Solution includes IBM Watson capabilities and:

watsonx
IBM Cloud Pak for Data

Blog

Sample code conversion from Cobol to Java using generative AI

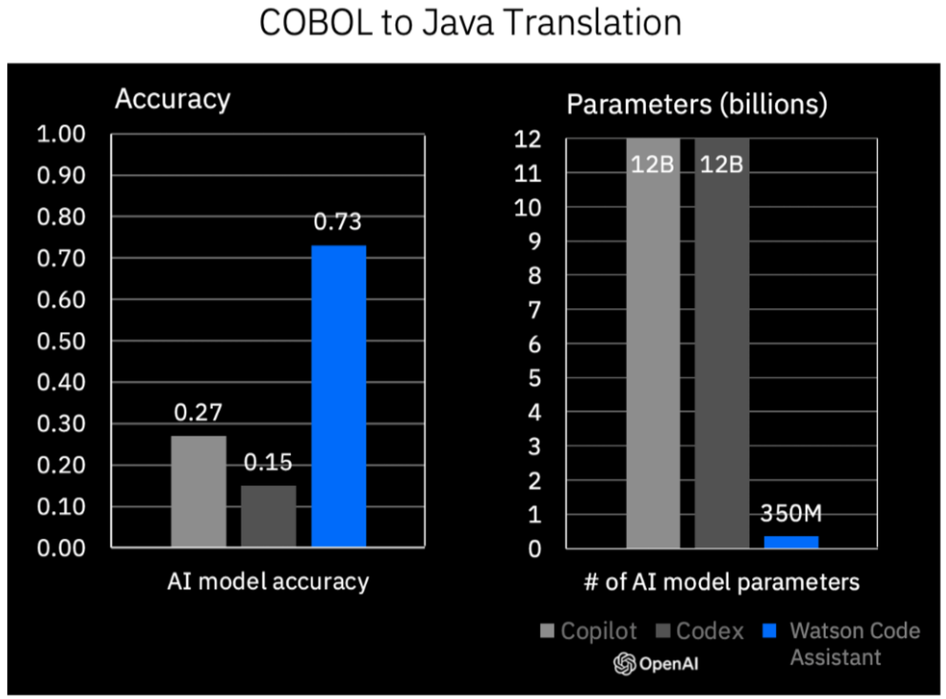
COBOL

```
IDENTIFICATION DIVISION.
PROGRAM-ID. HELLO.

DATA DIVISION.
WORKING-STORAGE SECTION.
01 ARGS_tbl OCCURS 100 TIMES .
05 ARGS PIC X(100).
01 N PIC S9(10).
01 G PIC S9(10).
01 MIN PIC S9(10).
01 COUNT1 PIC S9(10).
01 SUM1 PIC S9(10).
01 I PIC S9(10).
01 X PIC S9(10).
01 TEMP_0 PIC S9(10).
01 DIVCOBOL PIC S9(10).

PROCEDURE DIVISION.
 ACCEPT N
 ACCEPT G
 MOVE G TO MIN
 MOVE 0 TO COUNT1
 MOVE 0 TO SUM1
 PERFORM VARYING I FROM 0 BY +1
      UNTIL (I >= N)
  ACCEPT X
  ADD X TO SUM1
  IF (MIN > X) THEN
   MOVE X TO MIN
  END-IF
 END-PERFORM
 SUBTRACT SUM1 FROM G GIVING SUM1
 PERFORM UNTIL ((SUM1 - MIN) < 0)
  SUBTRACT MIN FROM SUM1
  ADD 1 TO COUNT1
 END-PERFORM
 ADD N COUNT1 GIVING TEMP_0
 DISPLAY TEMP_0
STOP RUN.
EXIT PROGRAM.
```

Java

```
import java.util.*;

public class Main {
 public static void main(String[]
      args) {
  Scanner sc = new
      Scanner(System.in);
  int n = sc.nextInt();
  int g = sc.nextInt();
  int min = g;
  int count = 0;
  int sum = 0;
  for(int i = 0; i < n; i++){
   int x = sc.nextInt();
   sum += x;
   if(min > x){
    min = x;
   }
  }
  sum = g - sum;
  while(sum - min >= 0){
   sum -= min;
   count++;
  }
  System.out.println(n + count);
 }
}
```

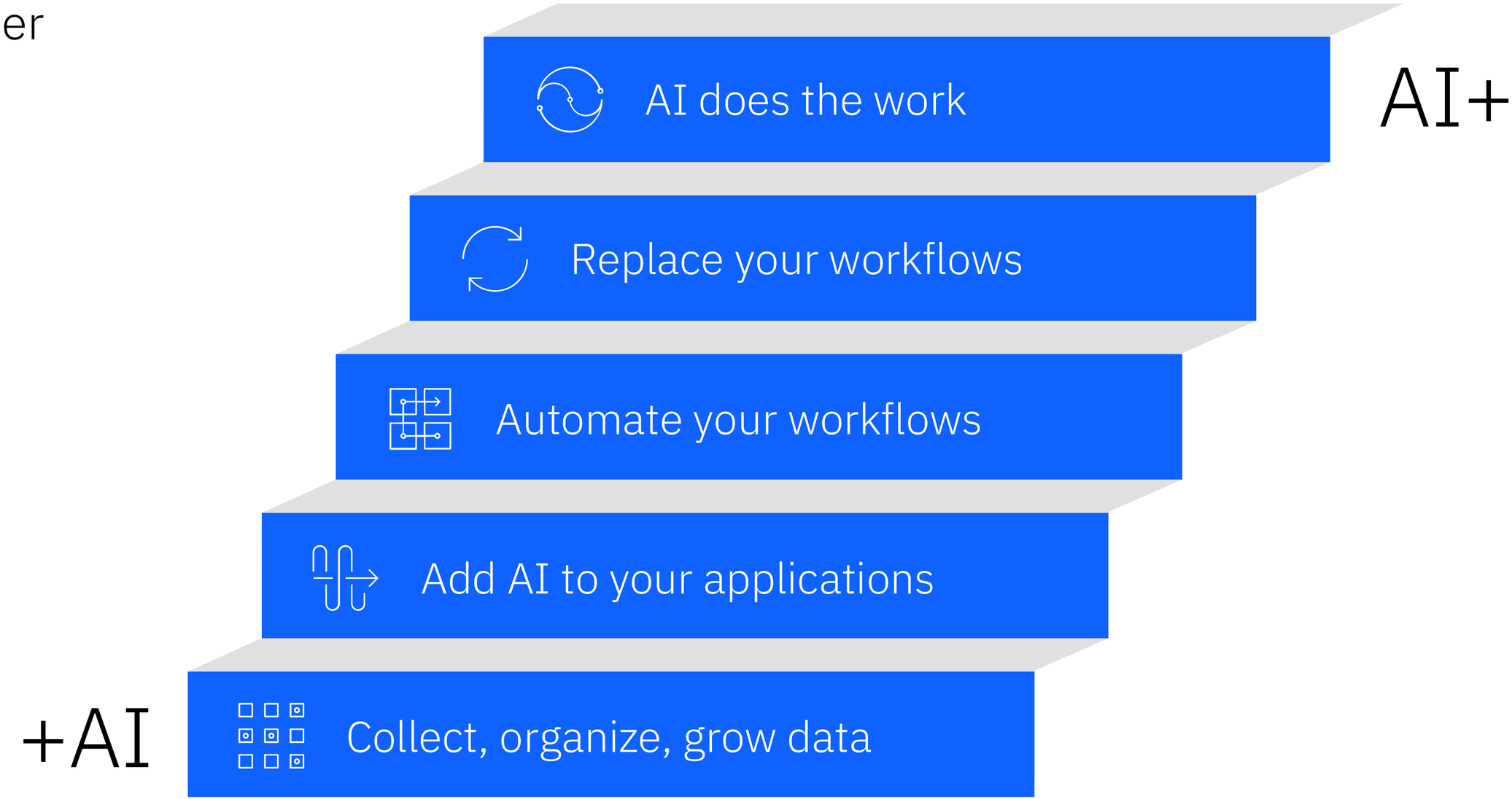
Purpose-built foundation models with quality at the core drives better performance and more efficiency



+AI → AI+

Reinventing how work gets done across business domains and industries

The modern-day AI ladder



Think 2030

1. 1 trillion transistors on a single chip
2. AI models with trillions of parameters
3. Quantum systems represent 2^100

IBM Research & Technology Atlas

We are writing the next chapter in computing with six long-term technology roadmaps that will bring a new era of performance and efficiency to information technology and business.
https://www.ibm.com/roadmaps/

IBM Institute for Business Value

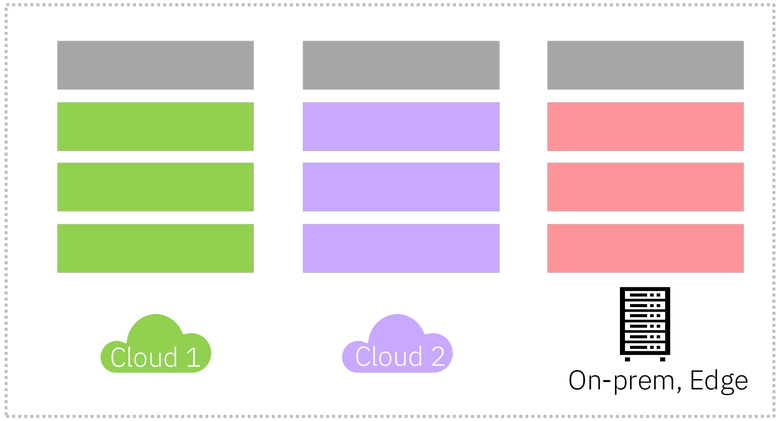
The CEO's guide to generative AI	The SAP advantage for generative AI	The enterprise guide to AI governance
CEOs are used to being in the hot seat. Only the toughest problems land on their desks—and how those problems are solved often defines an organization's future.	Discover how organizations with mature capabilities in SAP-specific generative AI are seeing distinct business advantages.	As AI adoption accelerates, organizations need effective governance guardrails in place to keep trustworthy AI on track.

https://www.ibm.com/thought-leadership/institute-business-value/en-us/

Hybrid by design builds on platforms to accelerate Digital Transformation

Hybrid by default

>90% Clients

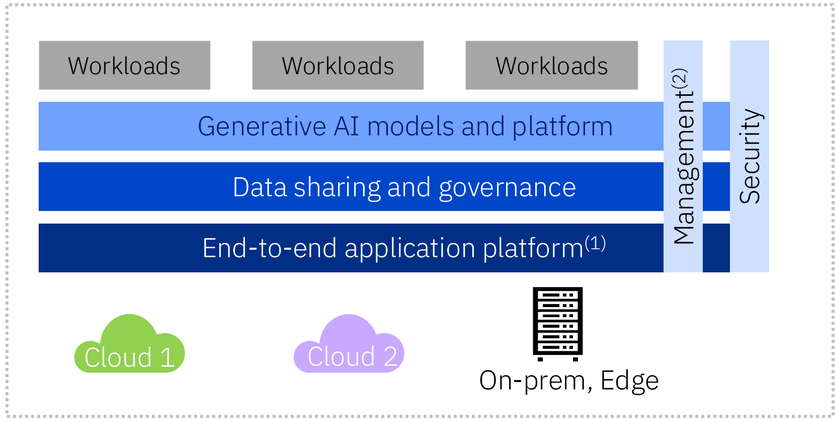


Client IT environment

- Siloed and slow-to-adopt innovation
- Sub-optimal use of resources
- Hard to align across business
- Generative AI constrained

Hybrid by design

<10% Clients



Client IT environment

- Continuous and speedy innovation
- Integrated and automated operating model
- Accelerated value of investments
- Generative AI at scale

(1) Applications development, delivery, deployment, operations; (2) Observability, Automation, Resource Optimization, FinOps…

IBM’s internal experience, our mature governance framework and strong technology foundation enable us to help clients adopt responsible AI at scale

Our Principles for Trust and Transparency and Pillars of Trust lay the foundation for how we develop and deploy technology responsibly

Our AI Ethics Board instills a culture of responsible technology throughout the business and establishes centralized governance

Our Ethics by Design framework outlines steps that developers and data scientists should take to develop responsible AI

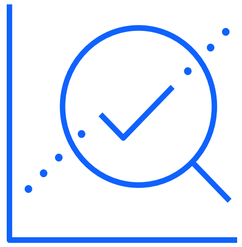
We are taking a proactive approach to regulatory compliance, building common requirements into an AI Baseline

Our experience developing our Integrated Governance Program enables us to help clients bring AI to market with speed and trust

Principles and Pillars

Organizational governance

Ethics by Design methodology

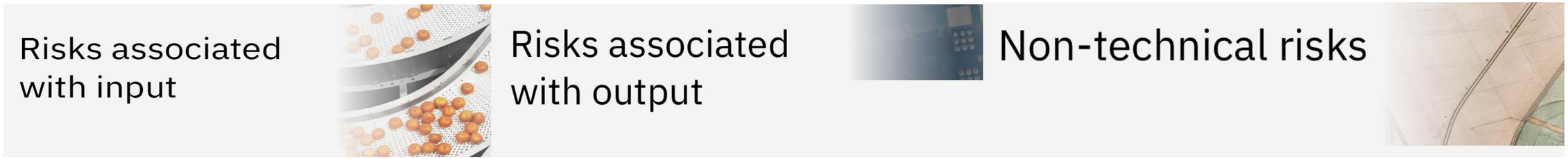


Regulatory readiness

Integrated Governance Program (IGP)

Underpinned by our own technology

IBM’s AI Risk Atlas: https://www.ibm.com/docs/en/watsonx/saas?topic=ai-risk-atlas



AI Governance

Transformation & Operations ↗

Scope & Plan | Collect & Organize | Build & Train | Validate & Deploy | Monitor & Manage

Application Owner

Developer

Apptio TP Submission

Application Portfolio Manager

watsonx.ai

watsonx project

Deployment Space

IBM OpenPages
(Office of Privacy and Responsible Technology)

Integrated Governance Request

Data & Model Governance

Tech Ethics Use Case

Privacy & AI Assessments

watsonx. governance

Developer Toolkit

Run Evaluations

Governance Console

Factsheets updates

Runtime Monitoring

Detectors

Guardrails

Guardium AI Security

Discovery

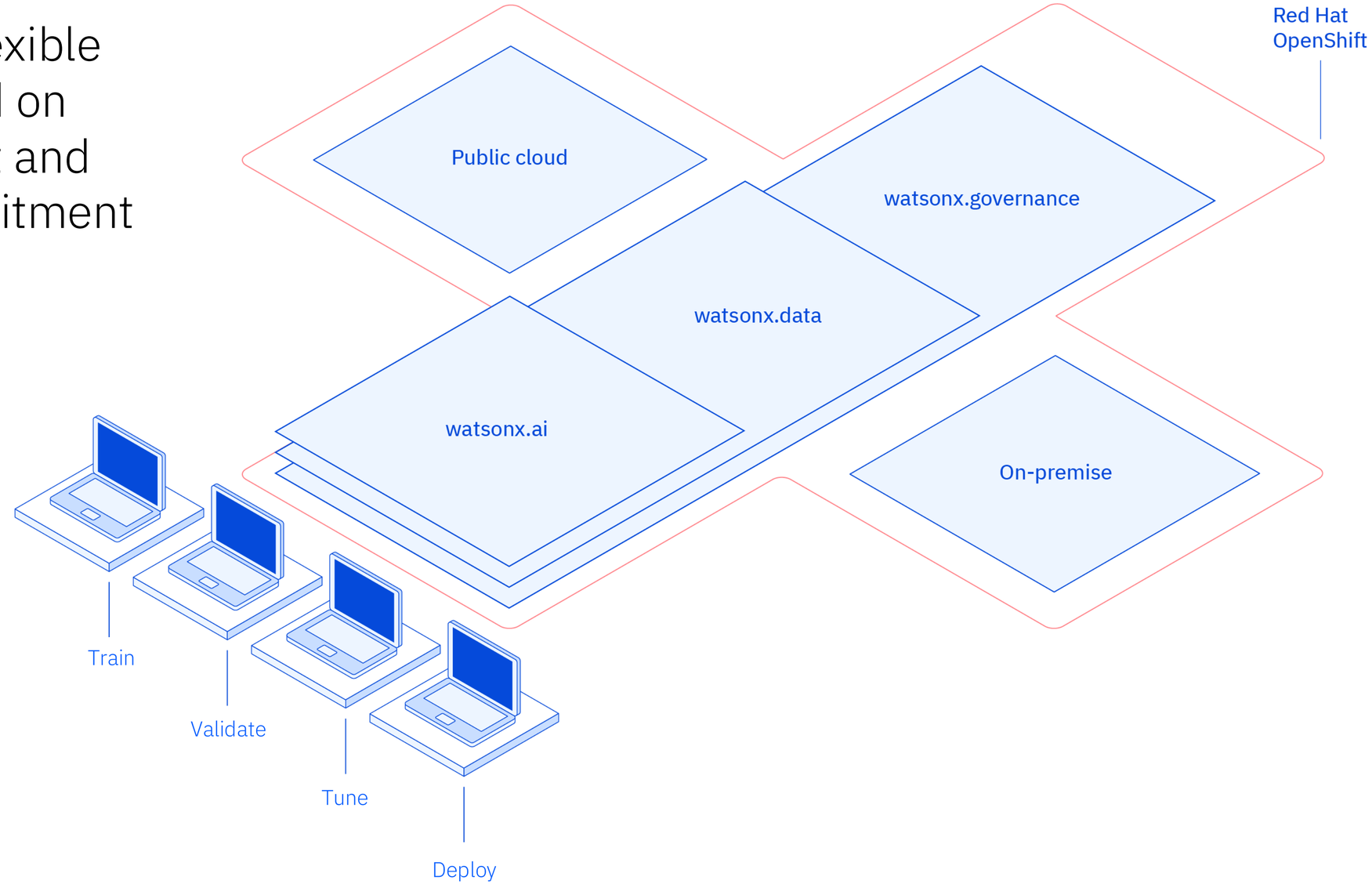
Secure Config

AI Governance for T&O

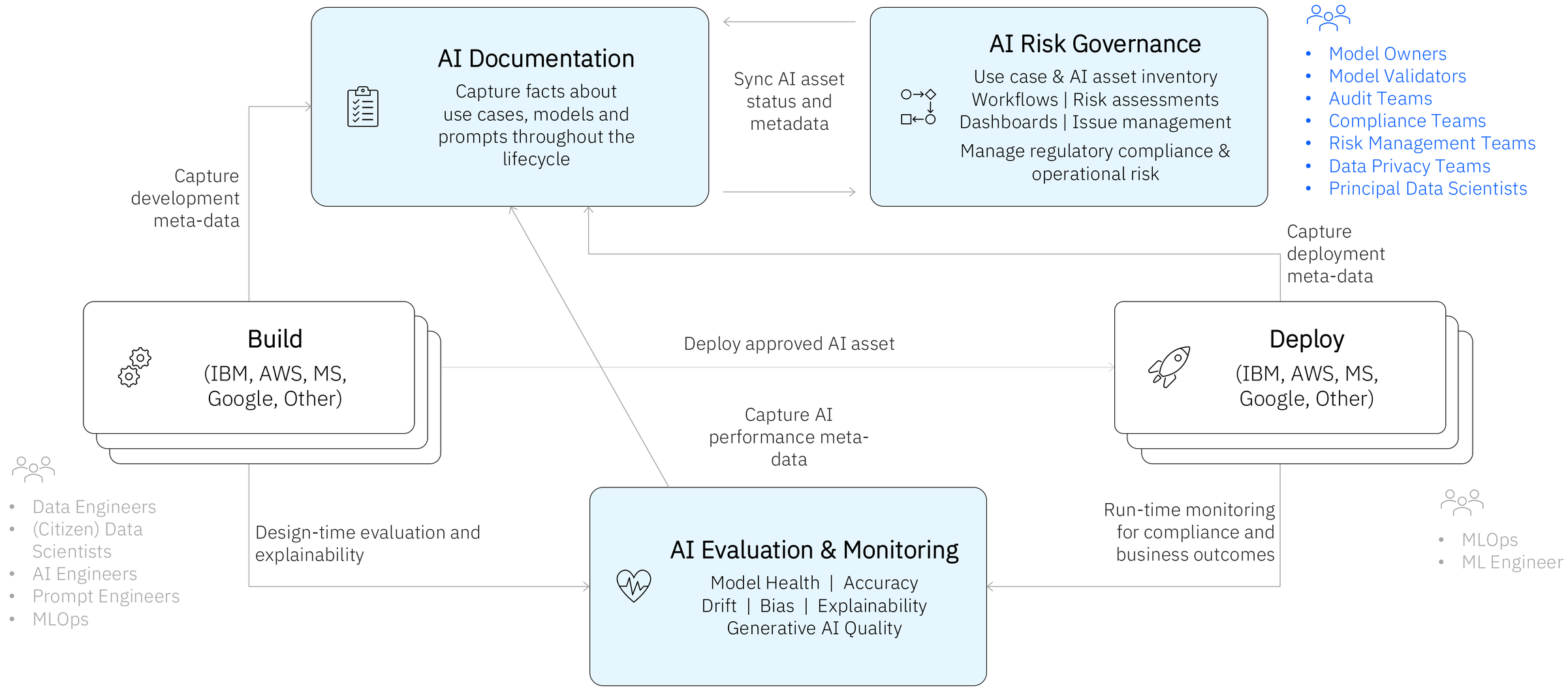
IBM CIO TPT | Governance Engineering

Future feature / enablement

watsonx: With flexible deployment based on Red Hat OpenShift and with a huge commitment open source



watsonx.governance



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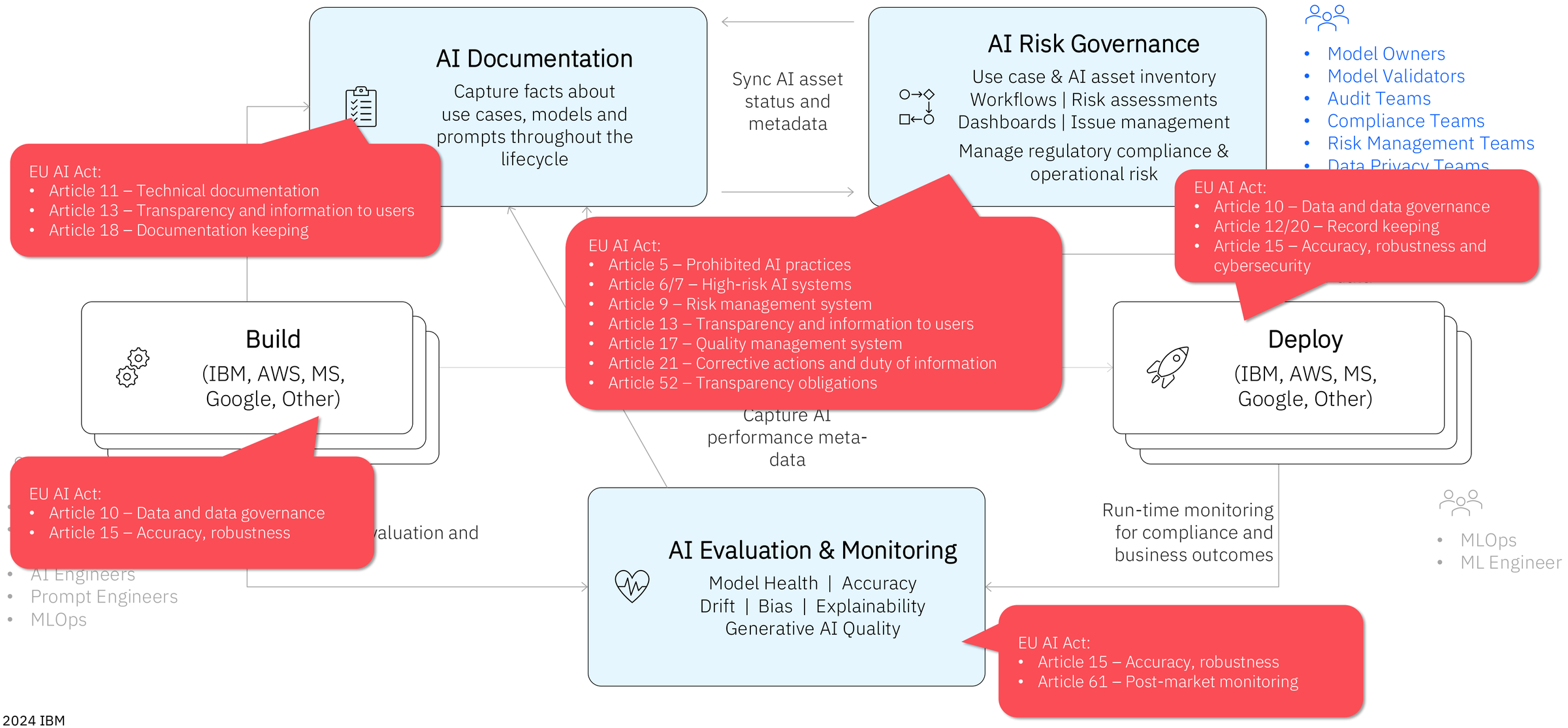
Conceptual mapping of provisions of the EU AI Act



IBM POV: Four core principles to tailor generative AI for enterprise

Open

→ Based on the best AI and cloud technologies available

→ Giving access to the innovation of the open community and multiple models

Do we create a vendor lock?

Targeted

→ Designed for targeted business use cases, that unlock new value

→ Including curated models that can be tuned to proprietary data and company guidelines

Are the models we deploy targeted the specific use case?

Trusted

→ Offering security and data protection

→ Built with governance, transparency, and ethics that support increasing regulatory compliance demands

Do we have evidence & transparency from data source to AI output?

Do we have an AI governance framework

Empowering

→ On a platform to bring your own data and AI models that you tune, train, deploy, and govern

→ Running anywhere, designed for scale and widespread adoption to truly create enterprise value

Who captures the value from our data?

What we're learning from thousands of generative AI projects

Multi-model

Two thirds of enterprises surveyed report pursuing a **multi-model strategy**

- 60% + of enterprises pursuing multi-model are experimental with commercial & open-source models
- Commercial & open-source innovation
- Quickly prioritize use cases that will outlive the model
- Multi-modal (text, image, audio, etc.)
- One model will not rule them all

Multi | hybrid cloud

Gartner reports that most **enterprises will deploy generative AI across hybrid / multicloud environments**

- Run where the workflows, apps and data live
- Infer where business runs to drive performance, cost, and simplicity
- Data location to drive security benefits
- Regulatory compliance to influence location selection

Governance

Surveyed companies report **governance as a top requirement**, impact of generative AI makes governance more difficult

- Businesses must control bias and monitor drift
- Organizations must actively monitor hallucinations and ensure model explainability
- Leaders must seek practices and tools to ensure model and data provenance

Scale for value

Critical to pick the **right use cases and deployment for generative AI ROI**

- Different work tasks have strongly positive or negative ROI impact
- Time savings for a meaningful product innovation +40%; business problem solving -23% time needed
- 60+ points difference in value for work tasks
- 25x difference in cost per inference, depending on model and deployment

Data matters

Generative AI pilots have not made it to production due to **challenges with data quality, access, and security**

- Short run: model innovation creates value
- Long run: data quality will decide which enterprises win with generative AI

Recommendations

1. Think 2030 & keep the AI strategy in the boardroom
2. Be hybrid by design to allow automation and AI at scale
3. Start with organizational and AI governance
4. Be proactive to AI risk, ethics and regulatory compliance
5. Think AI+ and integrate AI into your core business process
6. Are you creating a vendor lock & who captures the value of your data?
7. Targeted models outperform generic models
8. Do you have flexibility in deployment?
9. Do you have evidence and trans-parency from data input to AI output
10. Your targeted foundational models is your most valued future assets. Secure ownership

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