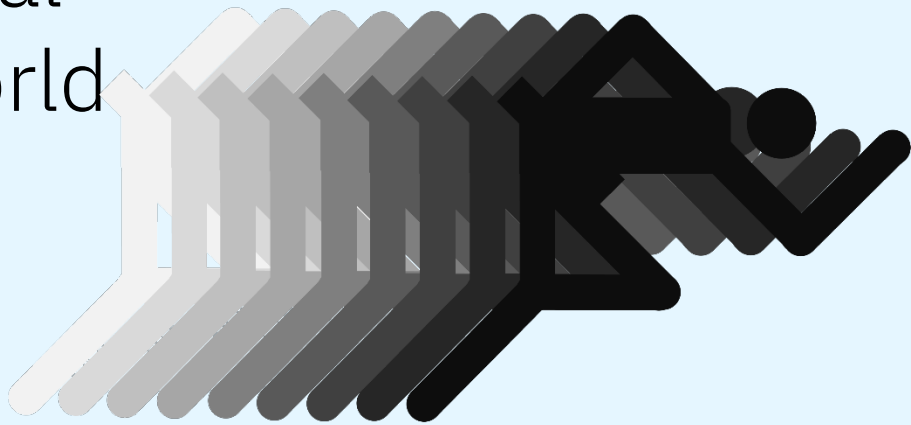
Enhancing Productivity with AI while navigating Data Governance, Security, and Confidentiality amid Global Challenges of Modern World



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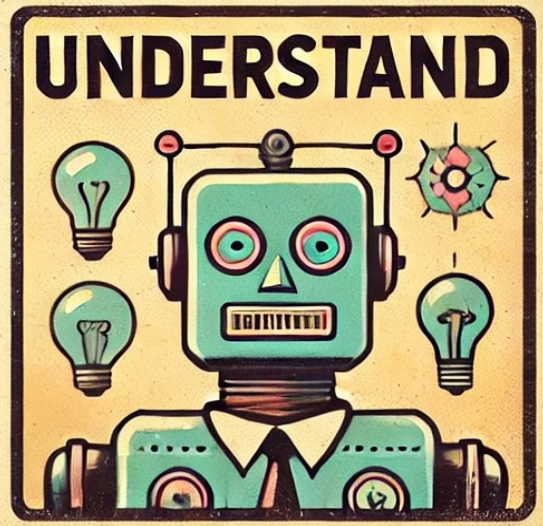
IBM


Play it, Sam.
Motorola Cellular Phones... when you can't afford to let time go by.
MOTOROLA

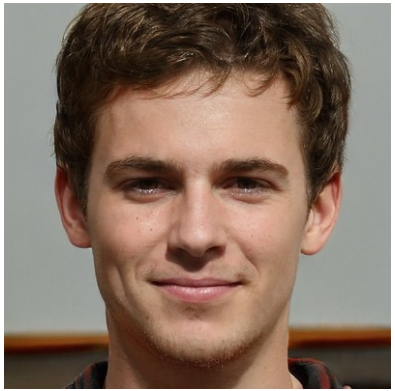

LISTEN

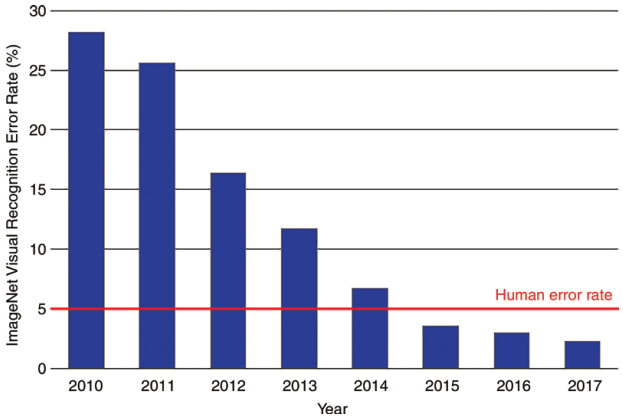

SPEAK


GENERATE

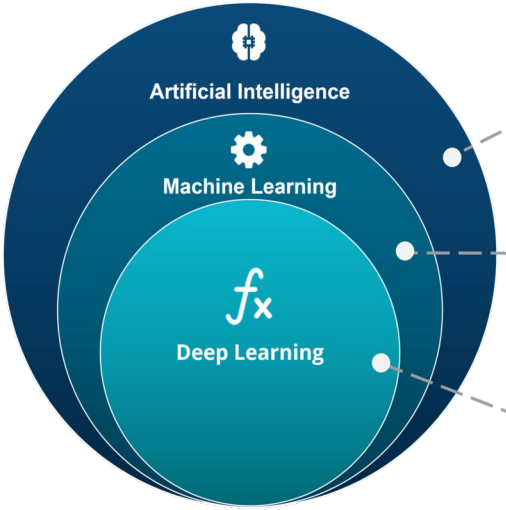

UNDERSTAND

Deep learning tsunami





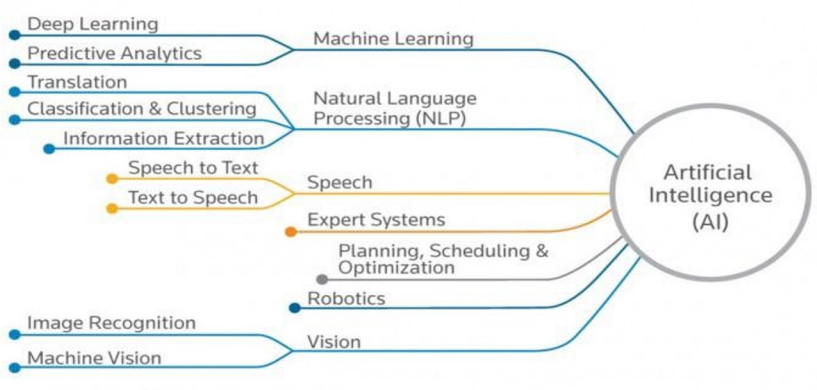
Deep learning tsunami



ARTIFICIAL INTELLIGENCE
A technique which enables machines to mimic human behaviour

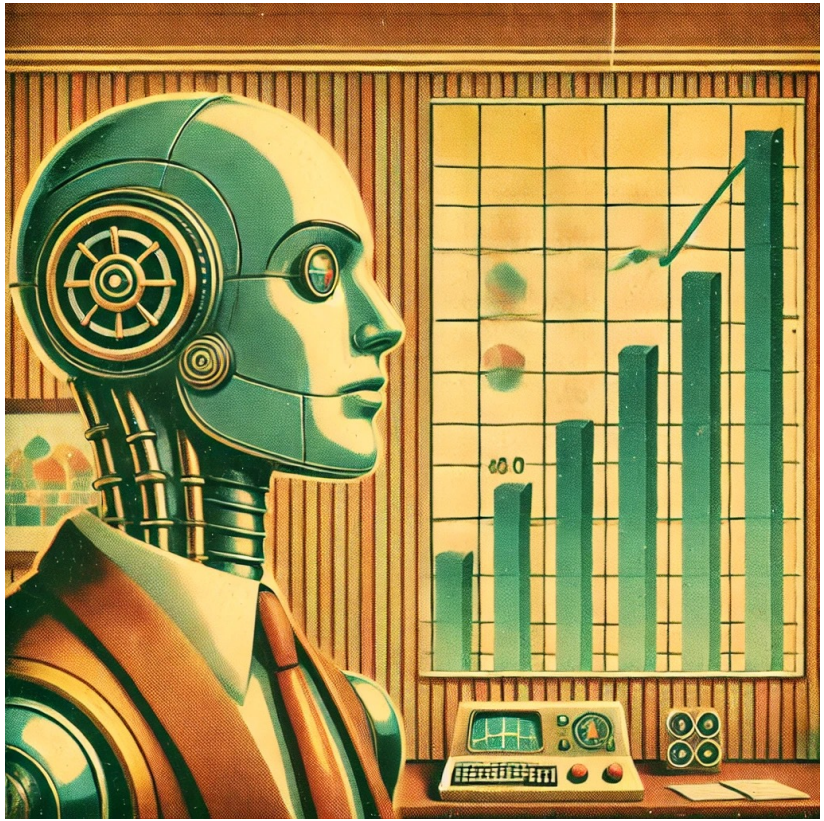
MACHINE LEARNING
Subset of AI technique which use statistical methods to enable machines to improve with experience

DEEP LEARNING
Subset of ML which make the computation of multi-layer neural network feasible



Source: https://www.edureka.co/blog/ai-vs-machine-learning-vs-deep-learning/

The 7 Stages of AI Evolution



- Rule-Based AI Systems
- Knowledge and Context-Aware Systems
- Specific Domain Systems
- Thinking and Reasoning
- General Artificial Intelligence (AGI)
- Artificial Superintelligence (ASI)
- The AI Singularity

Source: https://sendyardiansyah.medium.com/from-infancy-to-singularity-the-7-stages-of-ai-evolution-0a9252e82a81

The future is approaching quickly, AI will underpin the transformation of every part of a business

Plan | Buy | Make | Move | Market | Sell | Serve

2024, the breakout-year for enterprise Generative AI adoption

Surpassed experimental phase

55%

of organizations are already in piloting or production mode with generative AI, reveals recent Gartner poll[1]

Driver of growth and competitive differentiation

72%

of top-performing CEOs believe that competitive advantage comes from who has the most advanced generative AI[2] and 50%[3] are now integrating the tech into their products and services

Governance, risk and compliance are key concerns

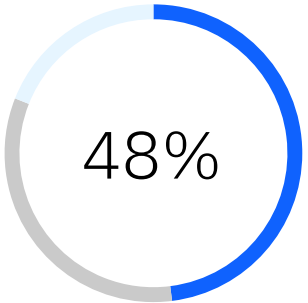
58%

of business executives think major ethical risks abound with generative AI[4]

Business leaders face challenges in scaling AI across the enterprise with trust

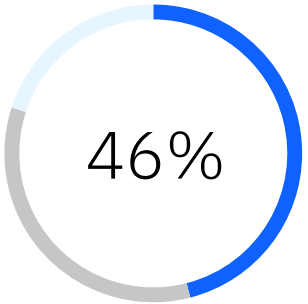
80% of surveyed business leaders see at least one of these ethical issues as a major concern

Explainability



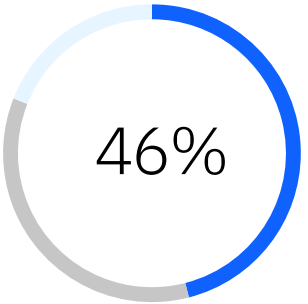
Believe decisions made by Generative AI are not sufficiently **explainable**.

Ethics



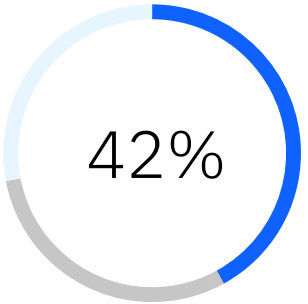
Concerned about the safety and **ethical** aspects of Generative AI.

Bias



Believe that Generative AI will propagate established **biases**.

Trust



Believe Generative AI cannot be **trusted**.

Agree Neutral Disagree

Source: IBM IBV “Generative AI: The state of the market”, June 2023

What does it take to trust a generative AI platform?

How was it trained?

- Garbage in -> garbage out
- An enterprise cannot use a foundation model trained with a Wikipedia crawl
- The training material needs to be huge and comprehensive but must also be curated

Can it detect & minimize bias & hallucination?

- How does the platform detect and correct bias?
- How can it prevent hallucination (providing random and untrue answers with absolute aplomb and convictions)?

Is it transparent?

- Open vs black-box
- How to audit, and explain the model and the answers it generates?
- Does the model track drift and bias? And how does it address them?

Does it support regulatory compliance?

- How do foundation models and their usage comply with privacy and government regulations?
- What are the guardrails?
- Who is responsible for an inadvertently exposed PII or a “wrong answer”?

Is it safe?

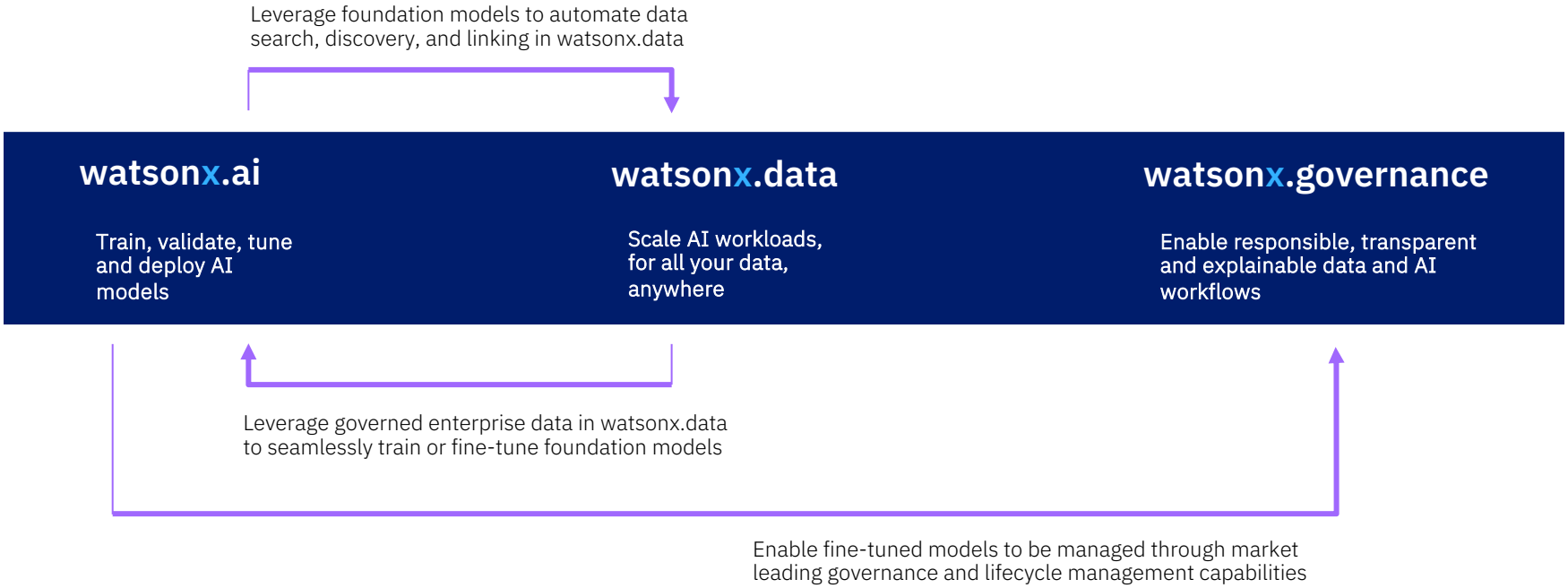
- Who has control over the model, input data, and output data?
- How to ensure that confidential information is not given out?
- How is it monitored?
- What safety features and guardrails are in place?

Can it be customized?

- Hybrid and multicloud?
- Can the model be fine-tuned with clients’ data?
- How can clients update, and extend the model to make it more suitable for their use cases?
- How to integrate with applications? What APIs are in place?

Put AI to work with **watsonx**

Scale and accelerate the impact of AI with trusted data.



The generative AI Stack

AI Assistants

watsonx Assistant
watsonx Code Assistant
watsonx Discovery
watsonx Orchestrate
+++

Gen AI Platform

watsonx.ai
watsonx.governance
watsonx.data

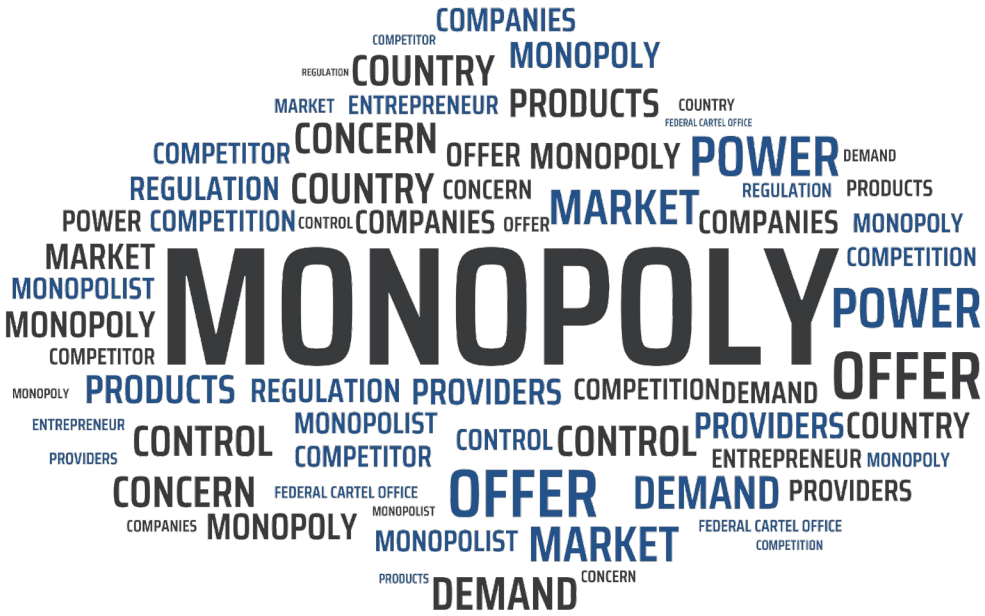
Foundation models & Third party

Infrastructure

HYBRID CLOUD

IBM – a differentiated approach to AI foundation models

There is no monopoly.
No one model will rule them all



watsonx model strategy

Multi-model

One model doesn't fit all use cases.
IBM offers IBM-developed, open-source, third-party, Original Equipment Manufacturer (OEM) models, and Custom Foundation Models.

Bigger is not always better. Specialized models can outperform general-purpose models with lower infrastructure requirements.

Multi-cloud

Deploy anywhere. IBM provides the flexibility to deploy models on the platform of choice.

EU Artificial Intelligence Act

01
Use high-quality training, validation and testing data.

02
Establish documentation and design logging features.

03
Ensure appropriate certain degree of transparency.

04
Ensure human oversight (measures built into the system and/or to be implemented by users).

05
Ensure robustness, accuracy, and cybersecurity.

Who will be affected?

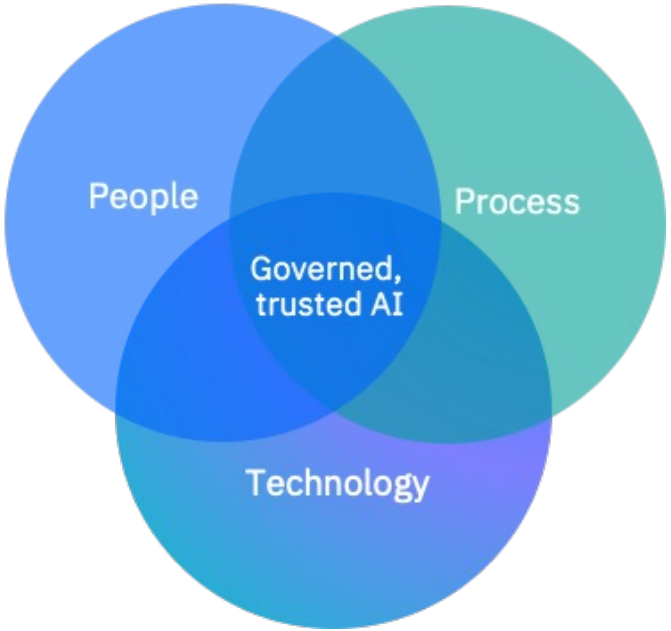
- Providers putting AI systems on the market within the EU, regardless of their location
- Providers and deployers (including users) of AI systems located in a non-EU country, where the output of the AI system is used within the EU
- Deployers of AI systems located in the EU
- Importers and distributors placing AI systems on the EU market
- Product manufacturers placing products with AI systems on the EU market under their own name or trademark
- Providers of general-purpose AI models, including large generative AI models

Why you must care?

Regulatory Risk

Reputational Risk

Financial and Operational Risk



€35M

in potential fines for noncompliance to the EU AI Act, or 7% of a company's total worldwide annual revenue.

AI systems considered as High-Risk systems according to EU AI Act - examples

Healthcare & medical devices:

- ✓ Diagnostics AI-powered medical devices;
- ✓ AI in Emergency Services

Finance & Insurance:

- ✓ Credit scoring
- ✓ Risk assessment and pricing in health & life insurance

Education:

- ✓ AI systems used for grading in educational and vocational settings

Energy & Utilities:

- ✓ AI systems for critical digital infrastructure management

Transport, automotive, air transportation:

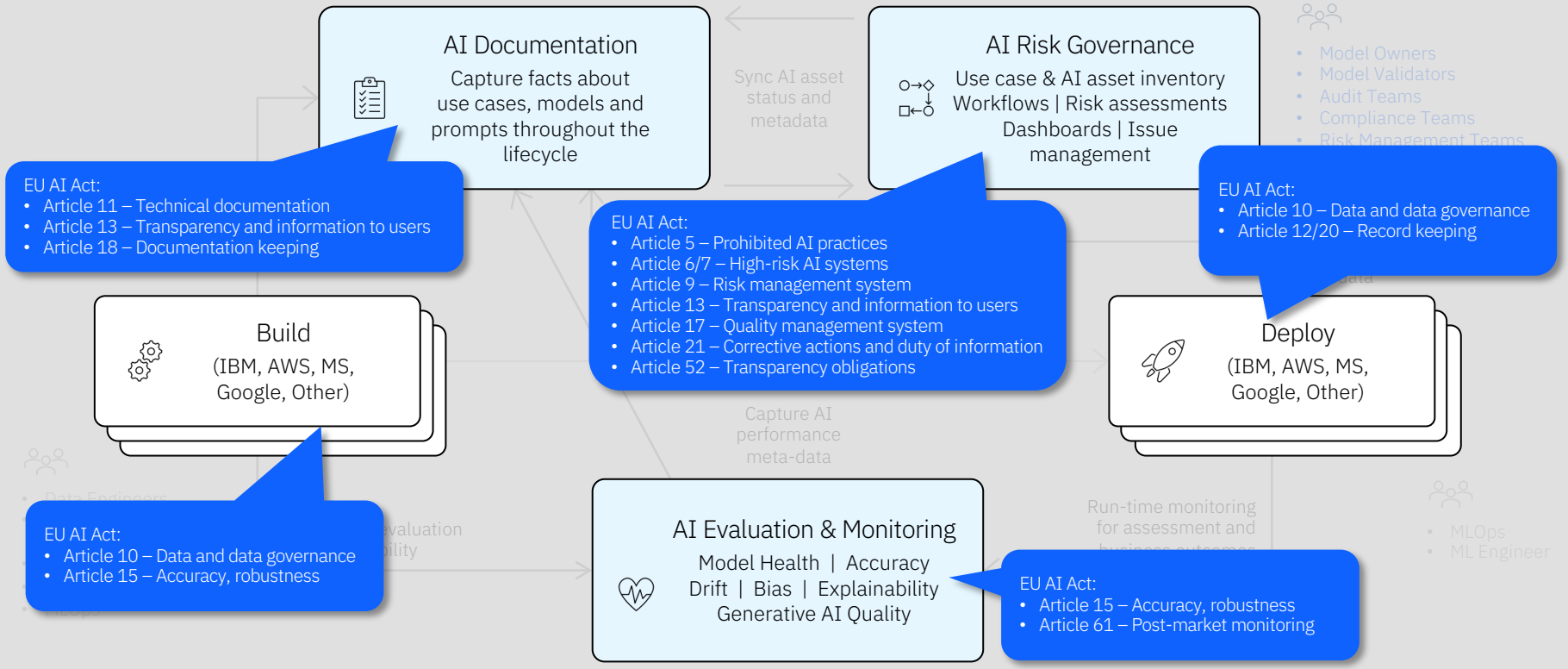
- ✓ AI powered assistance and warning systems
- ✓ AI in Aircraft systems
- ✓ AI in Air Traffic Control

Public sector:

- ✓ Biometric Identification Systems (law enforcement)
- ✓ AI systems for Emergency Services (classifying calls, dispatch prioritizing of police, firefighters, medical aid)
- ✓ Profiling during criminal detections, investigations

watsonx.governance - conceptual mapping of potentially relevant provisions of the EU AI Act

The client is responsible for ensuring compliance with all applicable laws and regulations. IBM does not provide legal advice nor represent or warrant that its services or products will ensure that the client is compliant with any law or regulation.



Article numbers subject to change pending release of final EU AI Act text.

The most common generative AI tasks implemented today

Retrieval-Augmented Generation

Based on a documents or dynamic content, create a chatbot or question-answering feature.

Building a Q&A resource from a broad knowledge base, providing customer service assistance

Summarization

Transform text with domain-specific content into personalized overviews that capture key points.

Conversation summaries, insurance coverage, meeting transcripts, contract information

Content Generation

Generate text content for a specific purpose.

Marketing campaigns, job descriptions, blog posts and articles, email drafting support

Named Entity Recognition

Identify and extract essential information from unstructured text.

Audit acceleration, SEC 10K fact extraction

Insight Extraction

Analyze existing unstructured text content to surface insights in specialized domain areas.

Medical diagnosis support, user research findings

Classification

Read and classify written input with as few as zero examples.

Sorting of customer complaints, threat and vulnerability classification, sentiment analysis, customer segmentation

Reinventing how work gets done

Use Cases Examples

Leveraging LLMs

Create Exceptional Customer Care

Empower customers to find solutions through a compelling user experience to improve customer experiences.

Deflect calls from call center and create a modern experience for existing inquiries and new offerings.

Improve Customer First Call Resolution

Augment agents with ready access to insight to address customer needs.

Improve call center interactions driving increased NPS and first call resolution rates.

Improve First Time Fix Rates for Maintenance

Provide field technicians with guidance and searchable access to manuals, SOPs and maintenance history.

Enable each technician to be as knowledgeable, and safe, as your best technician.

Reduce cost of IT service desk

Self service capabilities to common IT requests and questions.

Quicker resolution for common tasks with higher employee satisfaction while freeing IT time to focus on higher value functions.

Improve Rate Case submissions

Ready access to internal data and external regulatory documentation, past fillings and rulings.

Transform the rate case creation process through Retrieval- Augmented Generation and Summarization.

Streamline Rate Case response process

Analyze, summarize and generate responses to intervener questions.

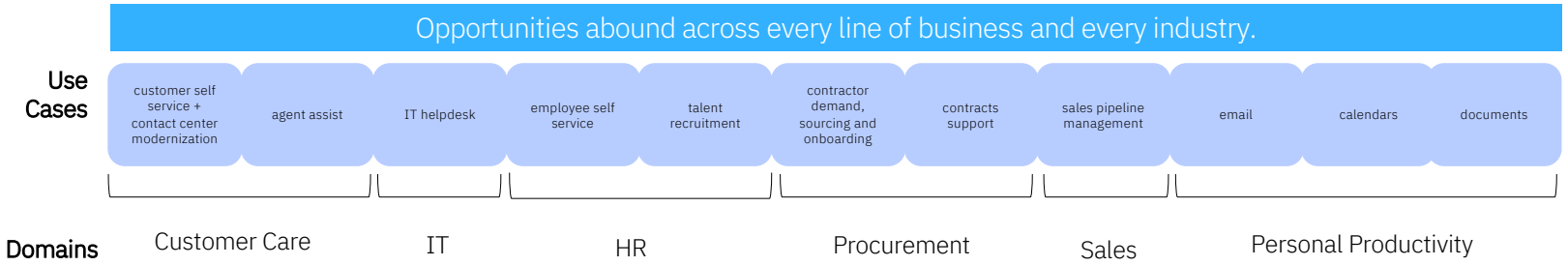
Drastically reduce the time and effort required to progress filings while improving response and reducing errors.

Reimagine work

Digital labor leverages **AI and automation**
to empower individuals to do work
without expert knowledge
of business processes and applications.

Inspire a culture of productivity

Opportunities Across the Enterprise



Human Resources

- Talent acquisition – posting jobs, sourcing candidates, and managing the interview process
- Onboarding employees and collecting required documents
- Manage the employee promotion cycle

Procurement

- Accelerate sourcing and staffing of contingent labor
- Managing vendor contracts and renewals
- Process and assess purchase requests

Sales

- Creating proposal for new deals and renewals
- Updating CRM and helping with cadencing process with reports
- Helping sellers navigate conversations with clients and prospect.

The possibilities are endless.

How is Digital Labor more than a bot?

Hi.
I'm Watson.

How it interacts

Chat

Natural language and autonomous events

Context

Context awareness

Guidance

Most optimized, guided interactions

How it thinks

Dynamic Sequencing

Orchestrate skills in real time

Memory

Memory is maintained over multiple interactions

Multi-tasking

Multi-tasking of skills execution

How it works

Identity

Unique credentials to access tools and execute tasks

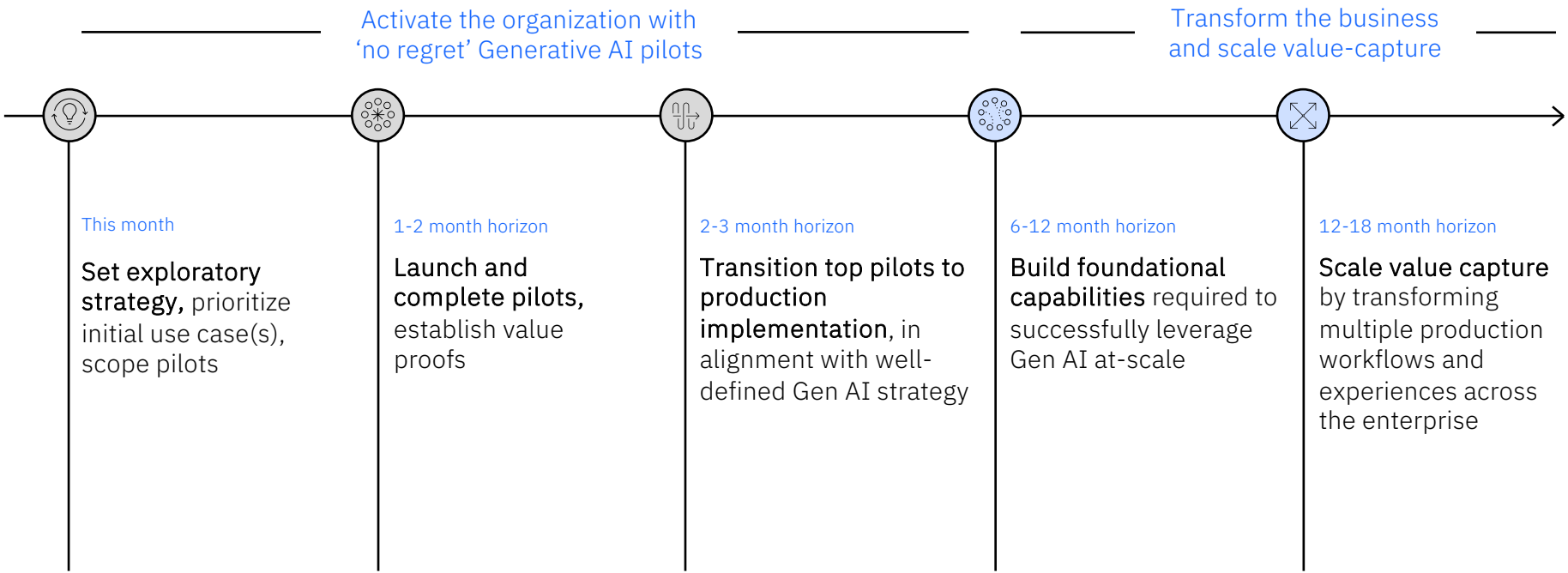
Skills

Out of the box pre-configured skills. Easily discover and train new skills

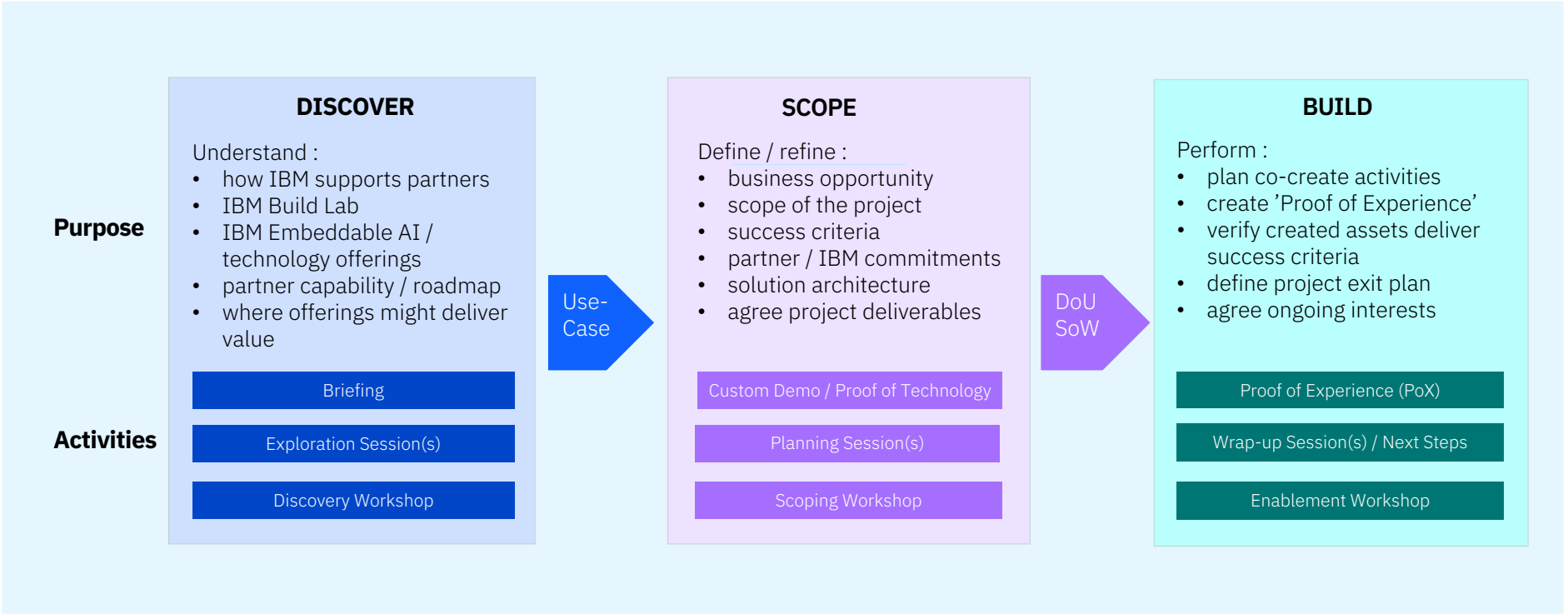
Delegation

Delegation of long-running tasks

AI transformation journey to unlock value at-scale
From rapid activation in a “no regrets” pilot to a holistic transformation effort



How our IBM Ecosystem can help - engagement model example



Why IBM?

Open	IBM’s AI is based on the best open technologies available
Trusted	IBM’s AI is transparent, responsible, and governed
Targeted	IBM’s AI is designed for enterprise and targeted at business domains
Empowering	IBM’s AI is for value creators, not just users

Thank you