

AI, GenAI and Watsonx in Asset Lifecycle Management

Klaus Roder
Data, AI & Sustainability Enthusiast
IBM

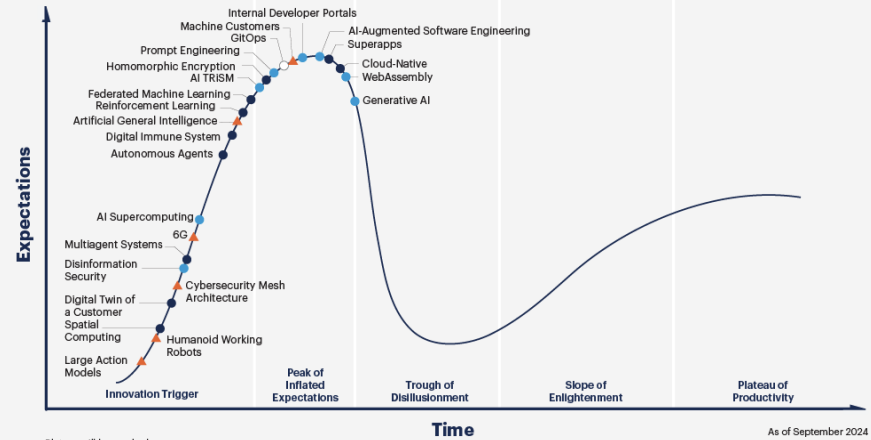


Spotlight on 2024 Gartner Hype Cycle™ for Emerging Technologies

Disruptive technologies hold great potential — for those businesses capable of overcoming the risks involved.

By [Arun Chandrasekaran](#) | October 10, 2024

Hype Cycle for Emerging Technologies, 2024



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Why The AI Hype Needs A Reality Check


Emil Sayegh Contributor ⓘ

Serial technology CEO covering all things IT & Tech.

Focus On Benefits, Not Buzzwords

The AI hype train is speeding toward a disappointment unless we rethink how we approach it. We need to stop overmarketing AI as the solution to everything and start focusing on the real value it brings. AI, when applied correctly, can offer immense benefits — efficiency, accuracy, cost savings and more. But it's not magic, and we shouldn't treat it like a one-size-fits-all solution.

Agenda

- 
- How Foundation Models Work
 - AI Agents
 - GenAI in Maximo
 - GenAI in TRIRIGA (Real Estate and Facilities Management)
 - Q&A

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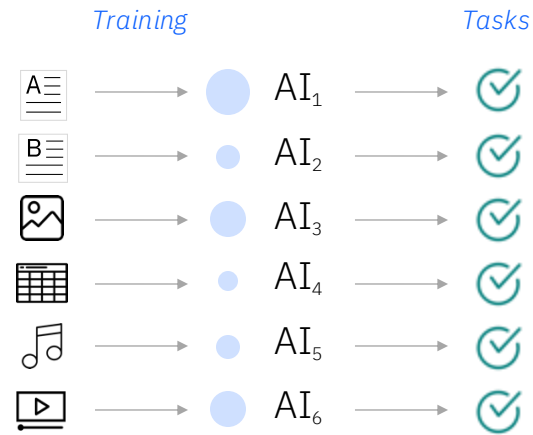


Data is the lifeblood of AI

Foundation models establish a new paradigm for AI capabilities

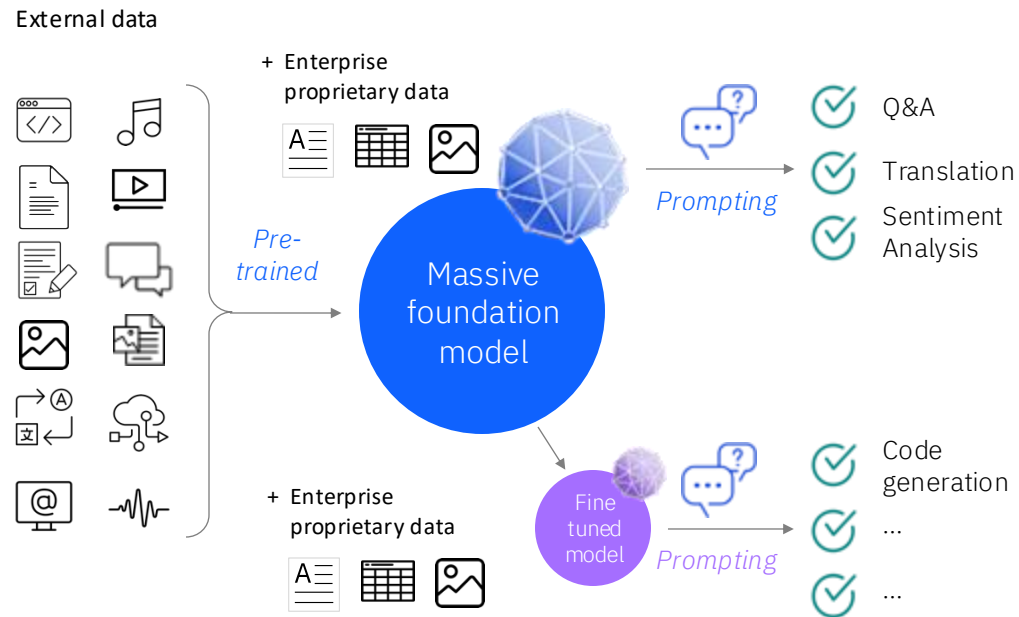
The impact of generative AI

Traditional AI models



- Individual siloed models
- Require task specific training
- Lots of human supervised training

Foundation models



- Massive multi-tasking model
- Adaptable with minimized training
- Pre-trained unsupervised learning

Enhanced capabilities

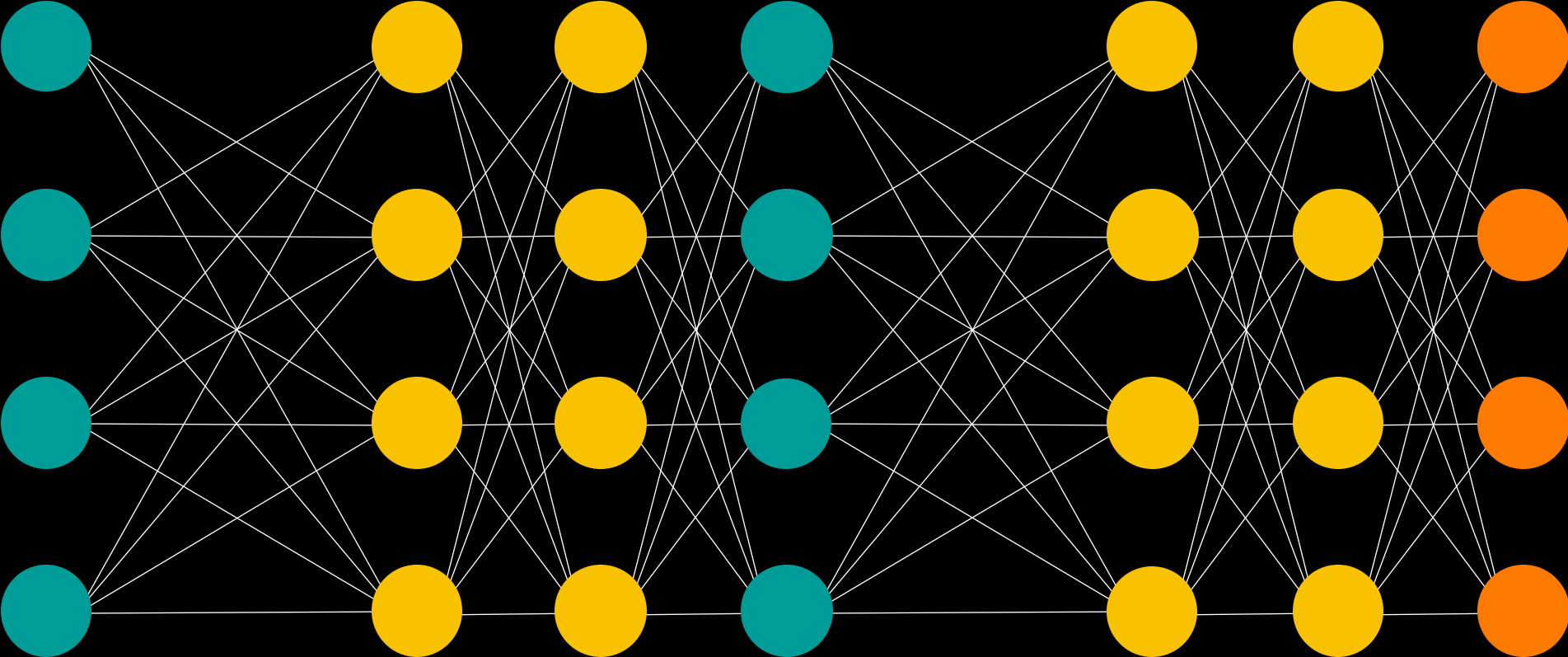
- Summarization
- Conversational Knowledge
- Content Creation
- Code Co-Creation

Key advantages

- Lower upfront costs through less labeling
- Faster deployment through fine tuning and inferencing
- Equal or better accuracy for multiple use cases
- Incremental revenue through better performance

up to **70% reduction** in certain NLP tasks

Foundation models



Foundation model training: a lot of **unlabeled data** + a little **labeled data**



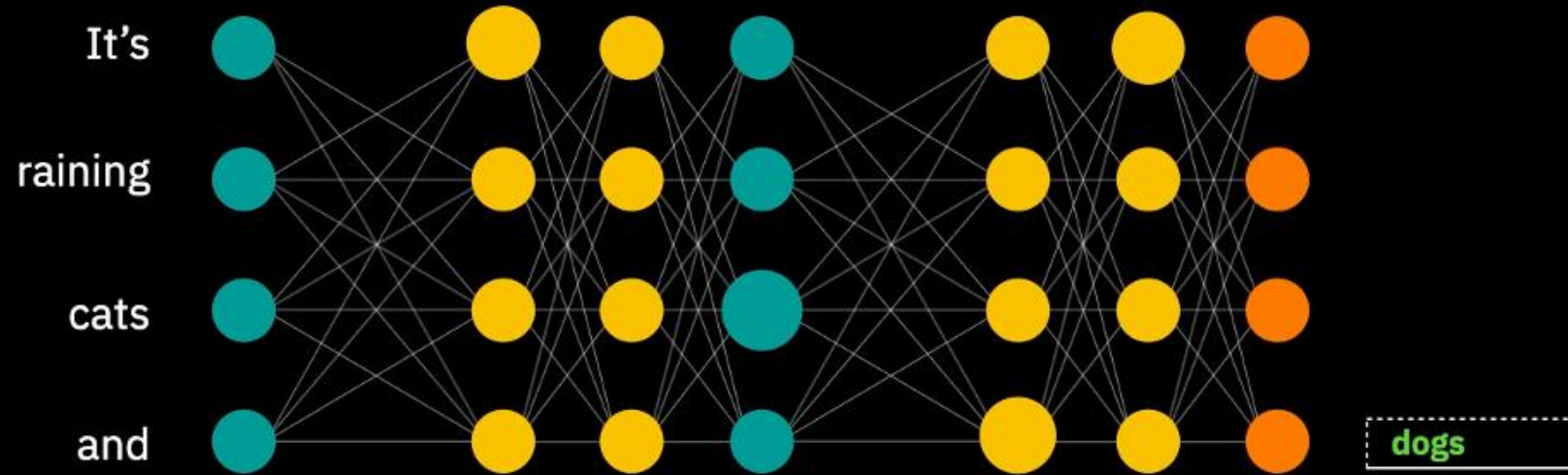
Unlabeled data for training:
100 billion sentences

© IBM 2025


Labeled data for fine tuning:
1000 examples



Training a foundation model: Self-supervision



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AI Agents



Get familiar with AI agents

2025 is set to be a big year
for AI agents.



What are they?

“Simply put, *AI agents are advanced AI systems that can **autonomously** complete*

- *complex tasks and*
- *multi-step processes*


*on behalf of a user by using external, **data, tools and resources.**”*

What are they?

“At the core they are large language models (LLMs), however traditional LLMs are bound by knowledge they are trained on and have reasoning limitations.

In contrast, AI agents are unbounded and can tap into available resources such as external data sets, web searches, APIs and even other agents to achieve complex goals.”

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Generative AI Opportunities: Applying foundation models in our Asset Lifecycle Management portfolio

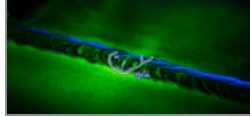
In flight

Failure mode context understanding



We are training a GenAI model to understand failure points. FMEA (Failure Mode and Effects Analysis) data is not available for many kinds of assets, and it can take time to acquire. This model can then be applied to other assets where data does not exist.

MVI prompt tuning



We are using foundation models and prompt-tuning to dramatically reduce the effort required to train the model for MVI.

Work order intelligence



We are training an LLM to classify and recommend work order codes, which will assist and (if desired) enable auto-approval of work orders overcoming human error and limitations. GA

Above ground biomass measurement



Use Geospatial Foundation Models to measure above ground biomass for known land cover and vegetation species. Preview Q1

Health: prediction & anomaly



We are using GenAI to create sensor-level models trained on a small sample of sensor data. This greatly speeds time to value for asset health prediction.

Flood and fire detection



Use geospatial model to detect fire tracks and floods leveraging data from NASA. Would enable stakeholders to quickly understand the impacts of flood and fire.

MVI anomaly detection



MVI AI currently can lack accuracy for “Few-Shot” anomaly detection. We are building a transformer-based foundation model that will fill these gaps.

Activity based scope 3 estimation



Leverage LLM to ingest and understand invoice level data to categorize business activities and estimate carbon emissions generated by the business at a more granular level. GA

In pipeline

Assist: technician assistant



We are using a GenAI assistant trained on service manuals and work orders to give technicians the latest asset service info and generate repair workflows.

MAS onboarding assistant



We are training an LLM model to answer questions that arise in implementation that can guide clients about costs, effort and risks.

Envizi SRM assistant



The sustainability disclosure environment is complex. We hope to train a GenAI virtual assistant to help guide our users through the process.

Envizi sustainability assistant



Sustainability journeys can be complex and require digesting vast amounts of data. We hope to train a Gen AI model to assist our users in this journey.

Work Order Intelligence Problem Code Recommendations using watsonx

New GenAI feature recommends problem codes to assist with existing challenges faced by customers to address poor quality (or missing) work order data, impacting effective maintenance prioritization decisions as well as time spent on review and approval.

- AI model trained using long and short descriptions from a small set of related work orders
- Work Orders displays the AI recommendations for review/accept
 - Uses new IBM Design UI elements incorporated into Graphite
 - Provides confidence score of the predictions
- Work queue surfaces the top AI recommendation to accept
- Leverages watsonx

The screenshot displays the 'Edit work order' page in the IBM Maximo Application Suite. The main form contains fields for Description, Work type (CM), Reported by (Edward Smith), Asset (983763), Location (BR430), and Failure class (PUMP). A modal window titled 'Recommendation' is open, showing a table of suggested problem codes with their descriptions and confidence scores. The table is as follows:

| Problem code | Description | Confidence |
|--------------------------------------|----------------|------------|
| <input checked="" type="radio"/> VIB | Vibration | 60% |
| <input type="radio"/> NOI | Noise | 55% |
| <input type="radio"/> PLU | Plugged/choked | 50% |

Below the table, there is a 'Problem code' dropdown menu with 'Unspecified' selected. A red box highlights this dropdown and the text 'Recommendation + 2 more' and 'AI Vibration 60%' below it. The modal also includes a 'Regenerate' button and 'Cancel' and 'Apply' buttons at the bottom.

Hide long description

Edit Insert Format

↓ B I U ↺ sans-serif

Work type

CM

Reported by

Edward Smith

Asset and location

Asset

983763

Location

BR430

Failure class

PUMP

Specify a failure class and then select a problem code.

Recommendation

Select a recommended problem code.

Regenerate ↺

| Problem code | Description | Confidence |
|--------------------------------------|-----------------|------------|
| <input checked="" type="radio"/> VIB | Vibration | 60% |
| <input type="radio"/> NOI | Noise | 55% |
| <input type="radio"/> PLU | Plugged/chocked | 50% |

Cancel

Apply

Problem code

Unspecified

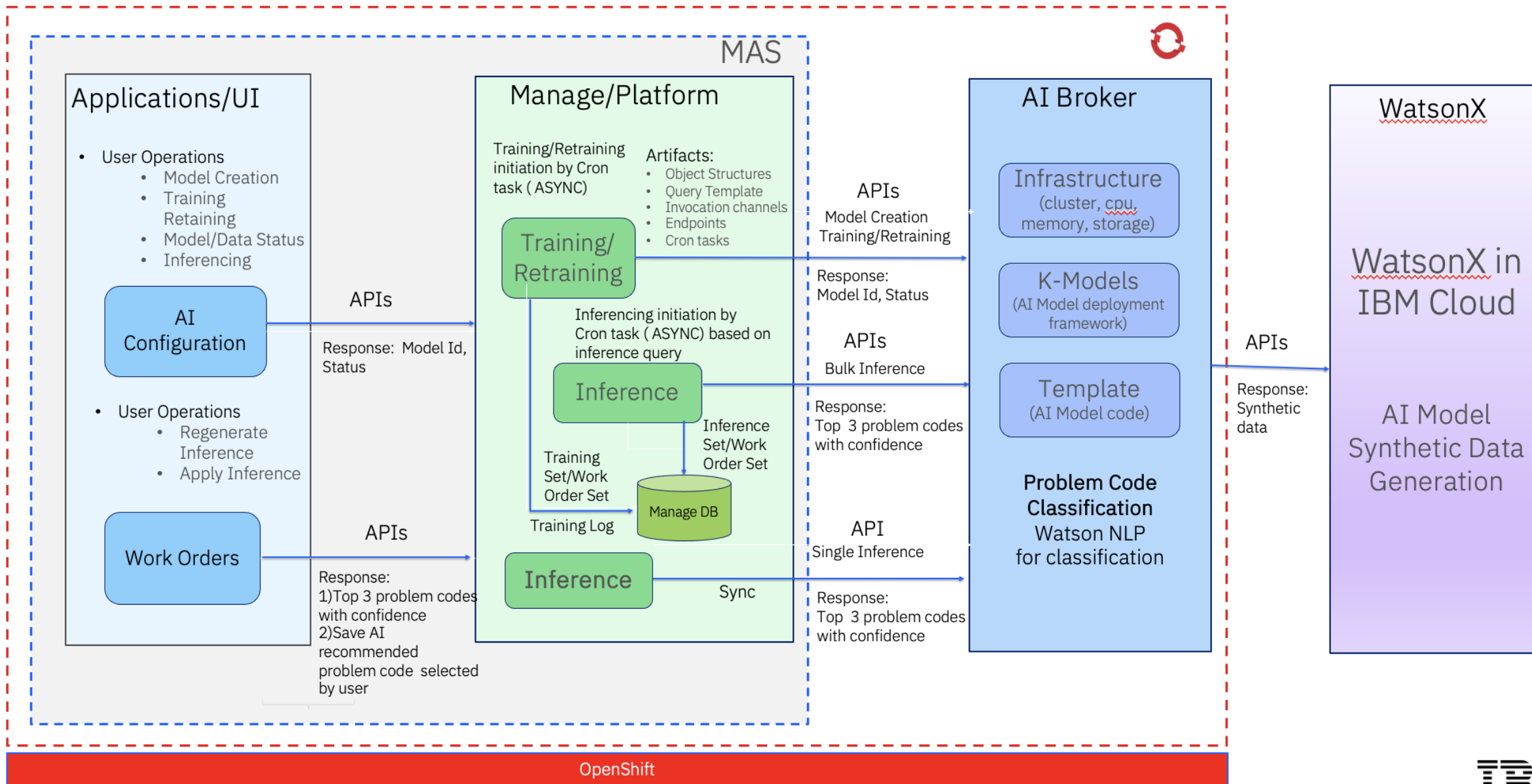
Recommendation + 2 more

AI Vibration 60%

Save

Cancel

Work Order Intelligence - Architecture



Conversational AI demo

Target delivery: Future

The screenshot displays the IBM Maximo Operational dashboard. At the top, it shows 'Operational dashboard' and 'Page last updated: 8/5/24 8:22:55 am'. The main section is titled 'Maintenance Manager' and includes several key performance indicators (KPIs):

- Overdue Emergency Work:** Over target by 28.00, 30 work orders, 100% from last refresh.
- Overdue PM Work:** Over target by 384.00, 389 work orders, 100% from last refresh.
- PM Performance:** Under target by 36.99, 58.01%, 100% from last refresh.
- Health of Assets for PM Work:** Under target by 90.00, 0%, 0% from last refresh.

A 'Selected KPI comparison' chart shows KPI values for EMWOOVER, PMPERF, and PMWOOVER. EMWOOVER and PMWOOVER are in the 'Alert' state (red bars), while PMPERF is 'On target' (green bar).

The 'Work queues' section shows a table with one item:


| Work queue name | Description | Owner | Priority |
|-----------------|---------------|-------|----------|
| JOK QUEUE 112 | JOK Queue 112 | 52 | 1 |

The 'Workflow assignments due soon' section shows a table with one item:

| Assignment | Due Date |
|------------|----------|
| No data | |

At the bottom right, there is a blue chat bubble that says 'How can I help you today?' with a 'Close' button.

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Uncover lease information using GenAI



Query unstructured source documents to uncover lease details not normally abstracted during the lease abstraction process



Improve accuracy of data already abstracted by using AI to validate lease data entered in MREF



Save time and money leveraging Gen AI to assist with lease abstraction activities

Search Leases

Select a Lease

Lease Agreement dated 09_18... ▼

Sample Questions

How is the commencement date determined?

What is the square footage of the rental?

Provide a list of the annual rate per square foot and the monthly base rent for all periods starting from CD

Lease File: Lease Agreement dated 09_18_2012.pdf

Lease Type: Lease

Landlord: ██████████ LLC

Tenant: ██████████ Inc.

Assignor: Not assigned

Enter your question

Can the tenant have early access to the premise?

Summary Context

Yes, the tenant can have early access to the premises, evidence of compliance with insurance obligations, and for paying for any other Building services requested dated 09_18_2012.pdf", page_numbers: [7, 7, 7])

AI- Driven Real Estate Optimization helps identify opportunities for improvement and cost savings`



Intelligent recommendations to understand:

- How do I best right-size my portfolio?
- What should I do with a lease that is coming up for renewal?
- What is the impact of terminating a lease early?
- Where should I next prioritize investments across my facilities?



AI models intelligently recommend options for areas of opportunity across your portfolio

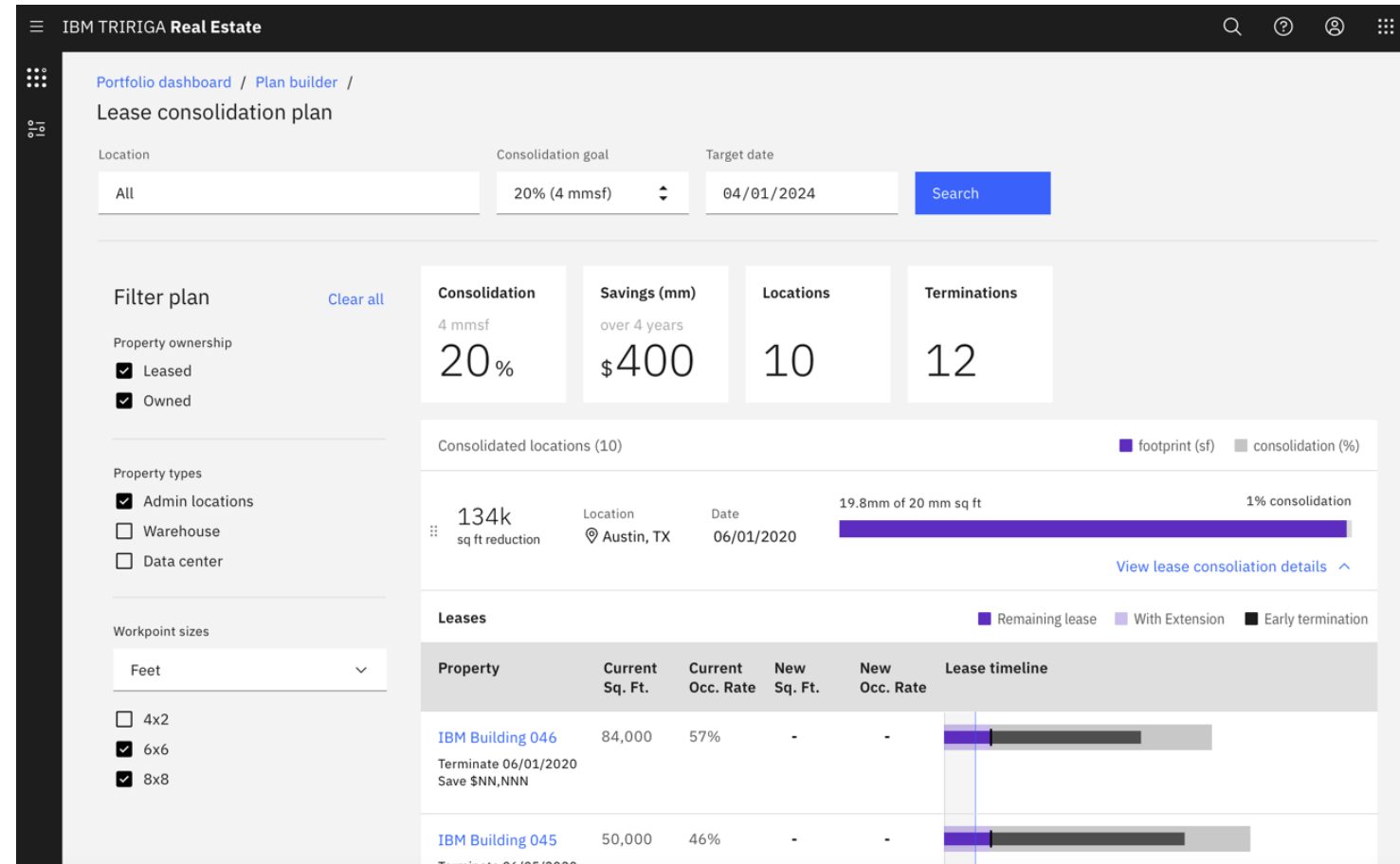


Leverage Real Estate & Facilities data across modules



Incorporate external data to improve recommendations.

- Wi-Fi & IoT for actual space utilization
- Environmental Intelligence for climate risk data
- Envizi for building energy performance
- IoT & BMS for building energy consumption, costs





IBM Acquires Prescinto for Renewable Energy Asset Performance Management

*Acquisition will enhance IBM Maximo Application Suite (MAS), further **IBM's leadership in energy and utility space**; comes at a key moment when renewable assets are growing in importance*

Today, IBM is announcing it has acquired Prescinto, a leading provider of asset performance management (APM) software-as-a-service (SaaS) for renewables. Prescinto's capabilities leverage AI to enable advanced monitoring, analytics, and automation to streamline renewable energy operations and manage clean energy and storage assets.

Organizations are increasingly turning to alternative energy sources like wind, solar, and energy storage to help reduce emissions and lower energy costs. Yet, it can be daunting to effectively manage and maximize the performance of high-tech devices like turbines, solar panels and inverters, which generate power from renewable energy assets. In addition, environmental factors like weather and debris can contribute to reducing energy output, system effectiveness, and system uptime. According to [Allied Market Research](#), the value of the global utilities asset management market is expected to grow from \$4.3 billion in 2022 to \$12.4 billion in 2031, with a CAGR of 11.3 percent.



Prescinto
an IBM Company

IBM Named an Enterprise Asset Management (EAM) Leader

IBM has been recognized as a market leader in [Enterprise Asset Management \(EAM\)](#) by the independent research and advisory firm **Verdantix**

IBM Maximo Application Suite (IBM Maximo) receiving top marks in the new report

"[Green Quadrant: Enterprise Asset Management Software 2025.](#)"

verdantix

Verdantix Green Quadrant: Enterprise Asset Management Software 2024



Source: Verdantix analysis

IBM Named a Connected Portfolio Intelligence Platform Leader

In their [2025 Green Quadrant: Connected Portfolio Intelligence Platforms](#), Verdantix recognized IBM as a market leader, highlighting that "IBM's configurable CPIP solution delivers robust capital project and lease functionality with rich data collection."

The report scored vendors across three areas:
1) the technical capabilities of their solution;
2) across functional capabilities that are critical to Corporate Real Estate executives; and
3) the momentum each vendors solutions demonstrated in the marketplace.



IBM's leadership stood out in all three areas.



Green Quadrant: Connected Portfolio Intelligence Platforms (CPIP/IWMS) 2025





謝謝
 DZIĘKUJĘ CI
 NGIYABONGA
 TEŞEKKÜR EDERİM
 DANKIE
 TERIMA KASIH
 SPASIBO
 ПАСИБО
 GRAZIE
 ПАРМЕТ СИЗГЕ
 GO RAIBH MAITH AGAT
 БЛАГОДАРЯ
 GRACIAS
 МАHAДСАНИД
 ТИ БЛАГОДАРАМ
 TAK DANKE
 RAHMAT
 MERCİ
 HATUR NUHUN
 PAKKA PÉR
 PAKKAT CAĞA
 CẢM ƠN BẠN
 WAZVIITA
 FALEMINDERIT
 TAPADH LEIBH
 KEA LEBOHA
 БАЯРЛАЛАА
 MISAOTRA ANAO
 WHAKAWHETAI KOE
 DANKON TANK TAPADH LEAT
 SALAMAT
 MATUR NUWUN
 ХВАЛА ВАМ
 MULȚUMESC
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 TEŞEKKÜR EDERİM
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 СИПОС

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