



# Reimagining Client & Employee Experiences with AI

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## POLL

Have you  
experimented with  
**generative AI** tools,  
such as ChatGPT,  
Midjourney or  
others?



# The promise of Generative AI is exciting

This house does  
**not** exist



Emma Sumrow



Anna Fixsen via Midjourney



Courtesy Matsys Design



# The promise of Generative AI is exciting

*pastel bauhaus inspired environments*



*dark spiral bauhaus inspired environments*

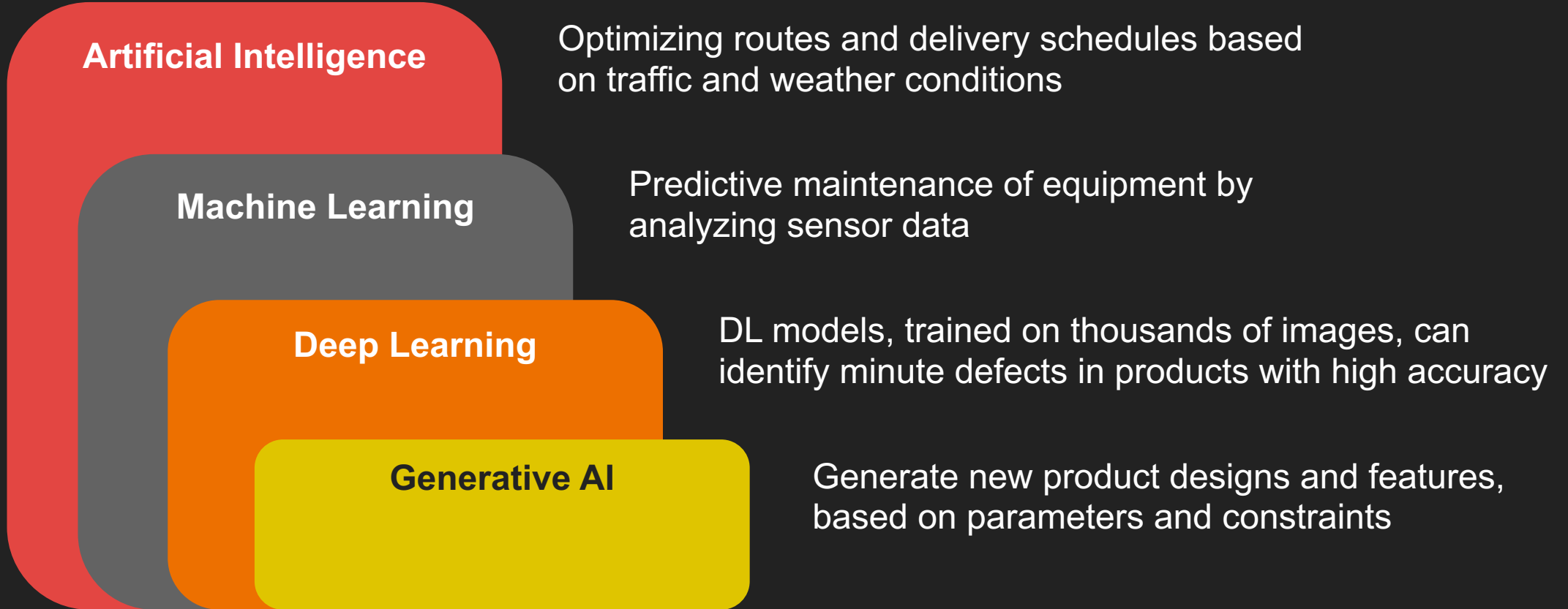


*mod bauhaus oskar schlemmer garments minimalism*



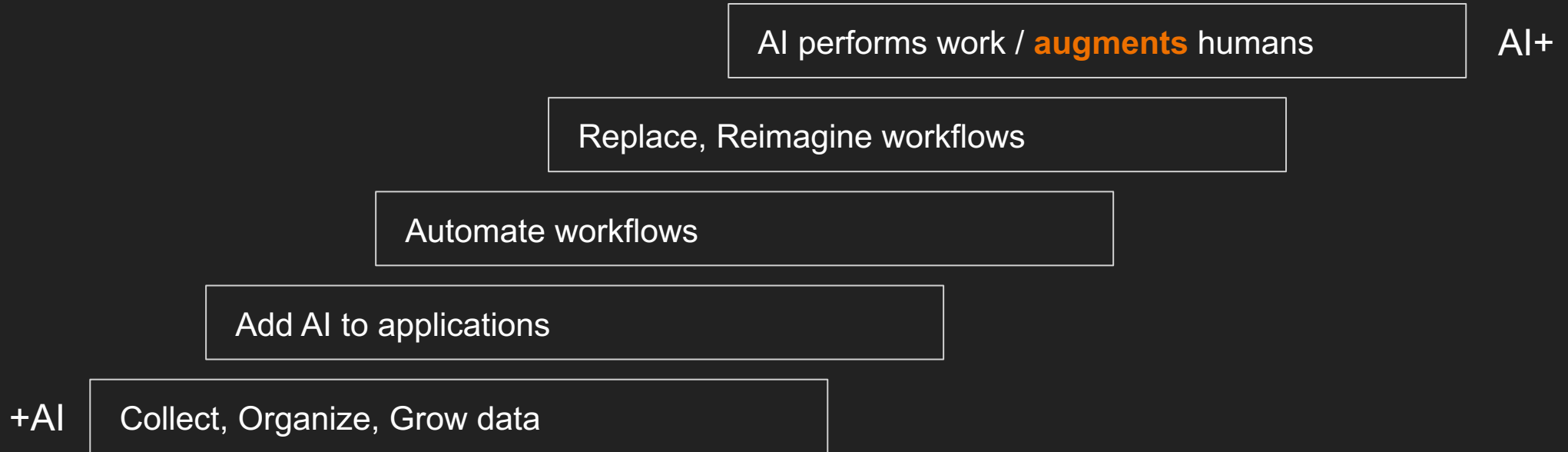


# But AI is more than Generative AI





# AI can shift us from Sense + Respond to Predict + Preempt



*From +AI to AI+ (adapted from IBM's AI Ladder)*



# AI can shift us from Sense + Respond to Predict + Preempt

## AEC USE CASE POSSIBILITIES

### Customer Experience

- Design Automation and Optimization
- Personalized Design
- Predictive Maintenance
- Site Safety
- Project Lifecycle Automation
- Energy Efficiency
- ....



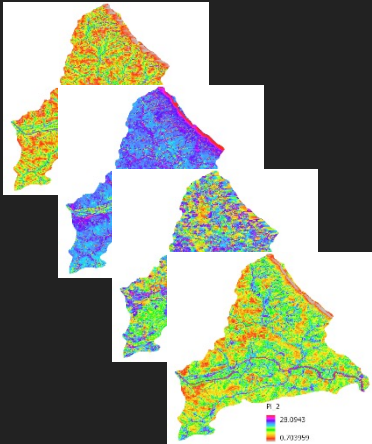
### Employee Experience

- HR / Talent Management
- IT processes
- Sales & Marketing
- Operations
- Finance



# Use Case: Flood Predictor

Dimensionless Engineering Features  
(Prediction Site)



Hydraulics Index 1 →

Hydraulics Index 2 →

Hydraulics Index 3 →

Hydrology Index →

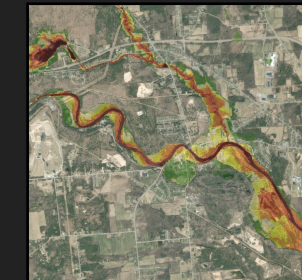
User Defined  
Hydrologic  
Condition  
(e.g. 10%, 1%, 0.2%)



Flood Prediction



Flood Probability



Processing  
Time

0-3 Hours

0-20 Minutes







# Use Case: AIOps

*AIOps combines big data and machine learning to automate IT operations processes, including event correlation, anomaly detection, and causality determination.*

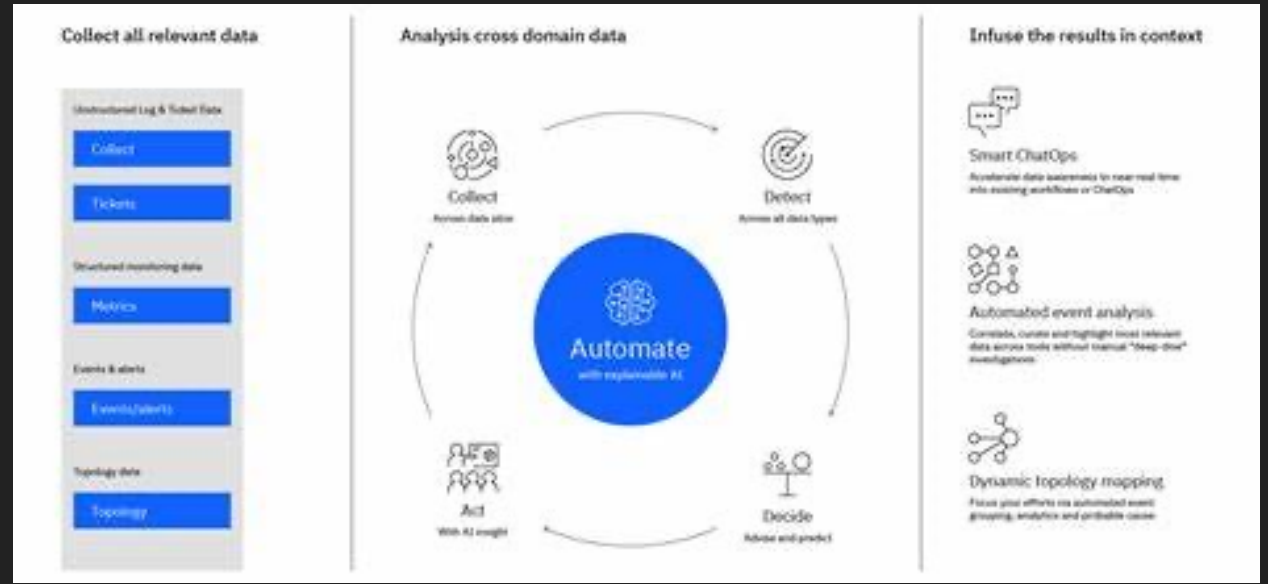
– Gartner

*\$64b Market size by '28, CAGR of 24%*  
– Mordar Intelligence

*62% of AI / IT leaders believe it is essential for Digital Transformation.*  
– USAII.Org

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**WAVE LEADER 2023**

Process-Centric AI for IT Operations (AIOps)





# Use Case: Image Automation via Stable Diffusion

**Stable Diffusion** is a powerful and free open-source AI image generation tool that is extremely customizable. Text or sample image inputs are used to create customizable imagery outputs.

## Highlights

- Proprietary visual programming language, **ComfyUI**
- Makes custom AI workflows more accessible to people familiar with visual programming.
- Visual programming languages are used throughout the AEC industry.

## The Opportunity

- Technical staff already versed in Design Automation or graphics software like Photoshop and Revit.
- Any staff member who regularly produces renderings, sketches, diagrams, or other visual imagery.

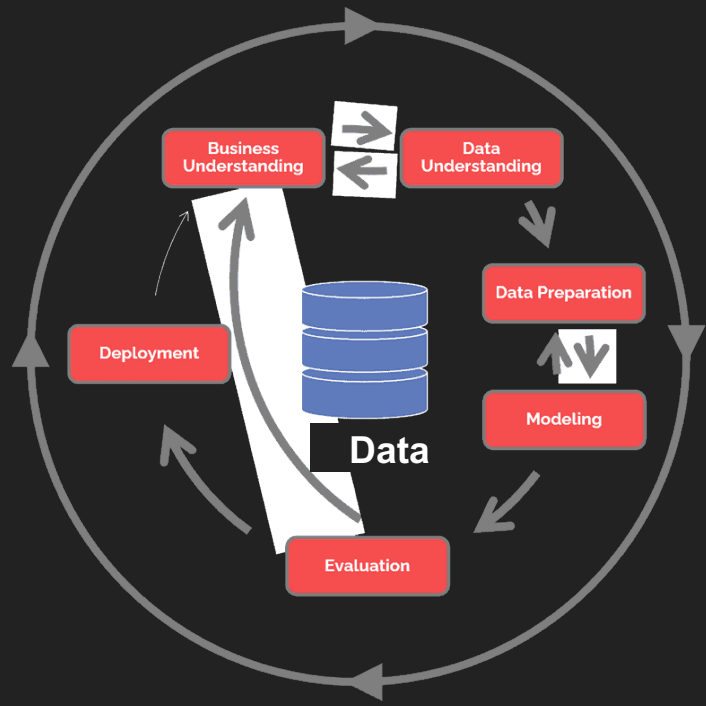
## Considerations

- Stable Diffusion needs a graphics card so is only usable on higher-spec computers.
- It may be effective to centralize the compute-power required to train specific AI models and make available, while retaining some governance through Remote Desktop Services or equivalent systems.



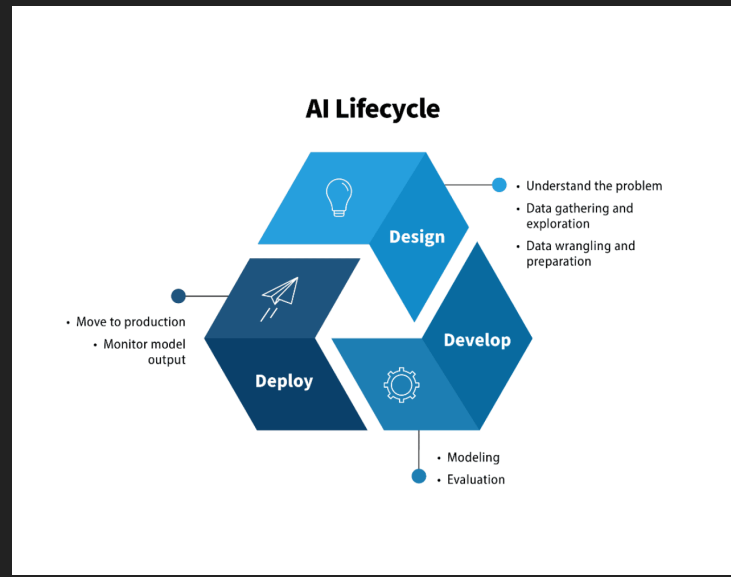
# Data is at the core of the AI Lifecycle

CRISPR-DM



Courtesy <https://www.datascience-pm.com>

AI



Courtesy <https://www.knowledgehut.com>

Gen AI



Courtesy <https://www.datascience-pm.com>

# Industry investments, returns on AI are telling. . .

\$154b investment in  
2023

~27% CAGR

\$300b by 2026

IDC

\$19b GenAI  
investment in 2023

~86% CAGR

\$151b by 2027

IDC

\$1b GenAI bookings  
by Accenture in 1<sup>st</sup>  
half of their fiscal

\$1.3b OpenAI annual  
revenue

Analyst India

...while latest advancements in AI will have a significant impact in AI adoption

AI for Climate Change – Google

EU's AI Act

Quantum – AI intersection

Federated learning – for data privacy

OpenAI Sora



**Thank You**