



**FLORIDA ATLANTIC**

COT 6930 - Generative Intelligence  
and Software Development Lifecycle

## Topic 9 - AI Driven Organizations

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# Agenda

GenAI in Business

AI-Driven Organizations

Use Cases

Exercise



# Course Timeline



AI-Drive Organizations

Market 2025

Final Project

Topic 9

Topic 8

Topic 7

Topic 6

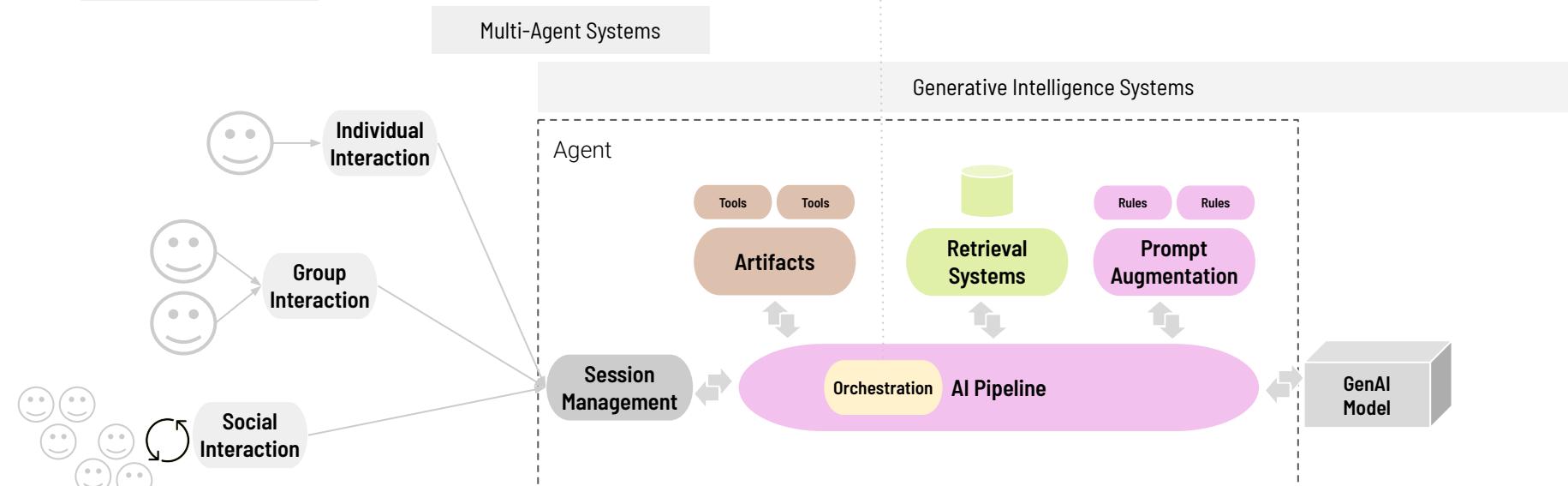
Topic 5

Topic 4

Topic 3

Topic 2

Topic 1

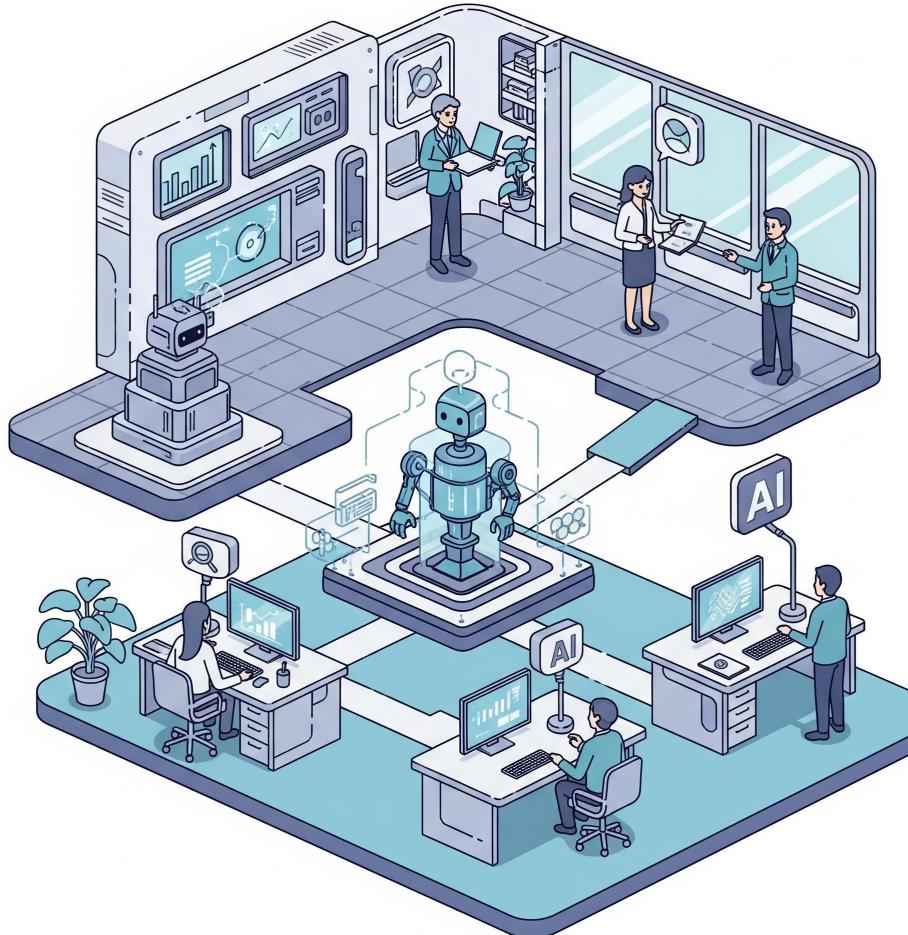


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Can Generative  
AI completely  
automate  
business  
operations?

A: Depends!



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# GenAI in Business

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# 90% AI Startups are Failing within their 1st-Year

## Perceived reasons:

- ▶ Investing in DEMOs
- ▶ No real value
- ▶ Lack of Market Demand (42%)
- ▶ Poor Product-Market Fit (34%)

## My hypothesis:

- ▶ 90% - Overestimate of AI Capabilities
- ▶ 60% - Underestimate development costs
- ▶ 50% - Pretend skills

<https://ai4sp.org/why-90-of-ai-startups-fail/>



# Where is GenAI being used?

<https://hbr.org/2024/03/how-people-are-really-using-genai>

AI And Machine Learning

## How People Are Really Using GenAI

by Marc Zao-Sanders

March 19, 2024

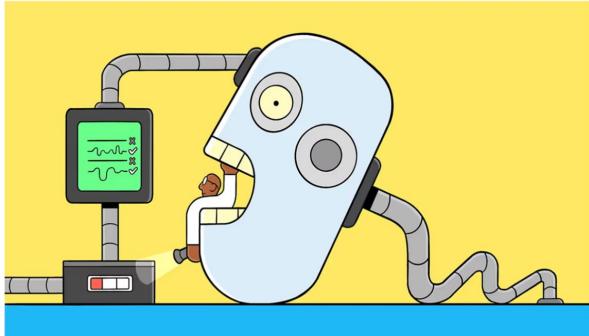


Illustration by Travis Constantine



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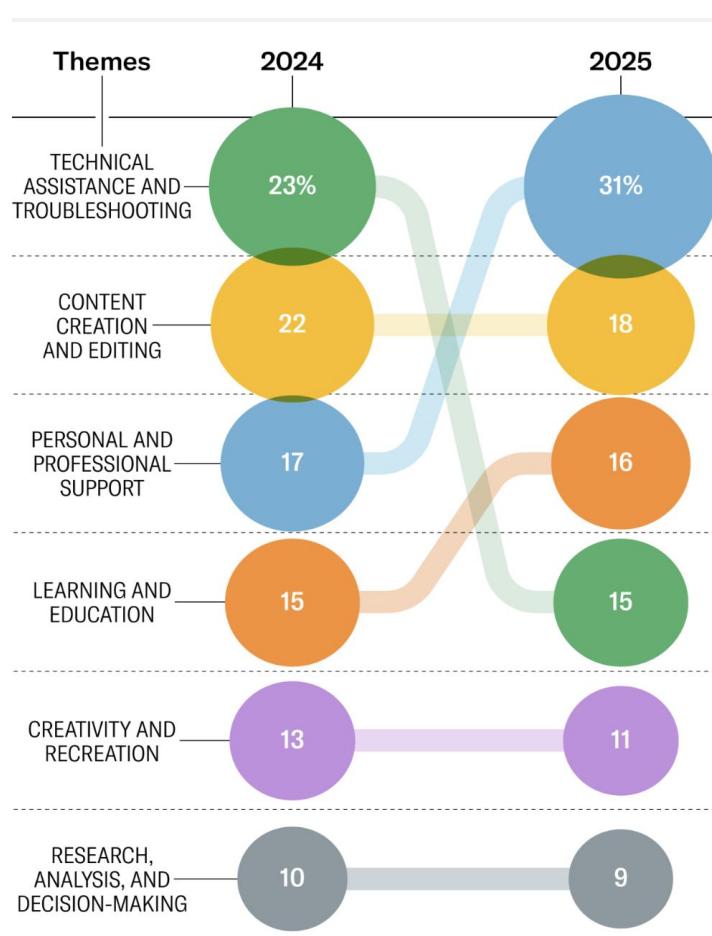
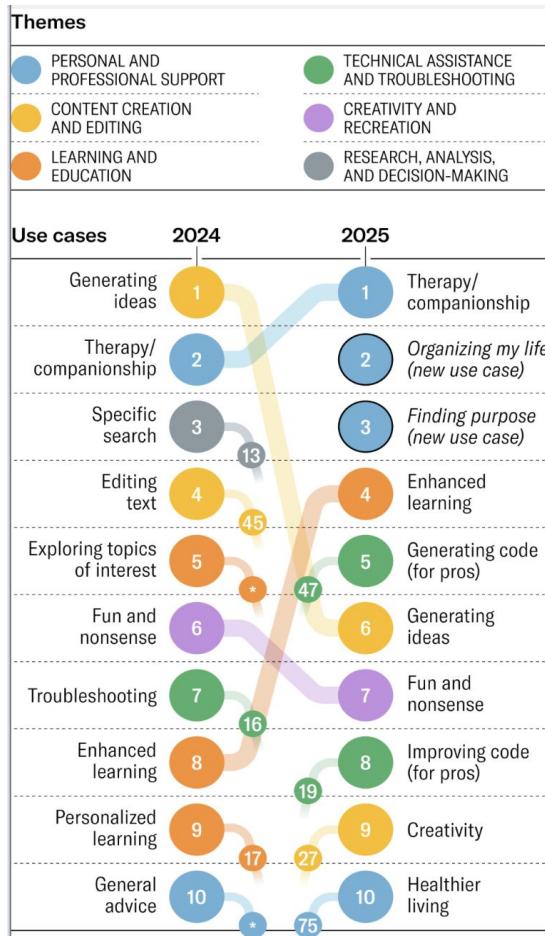


Share



It's been a little over a year since ChatGPT brought generative AI into the mainstream. In that time, we've ridden a wave of excitement about the current utility and future impact of large language models (LLMs). These tools already have hundreds of millions of weekly users, analysts are projecting a multi-trillion dollar contribution to the economy, and there's now a growing array of credible competitors to OpenAI.





# Where to Apply GenAI in Business



Google Cloud

Google Cloud logo icon

# The ROI of AI 2025

How agents are unlocking the next  
wave of AI-driven business value.

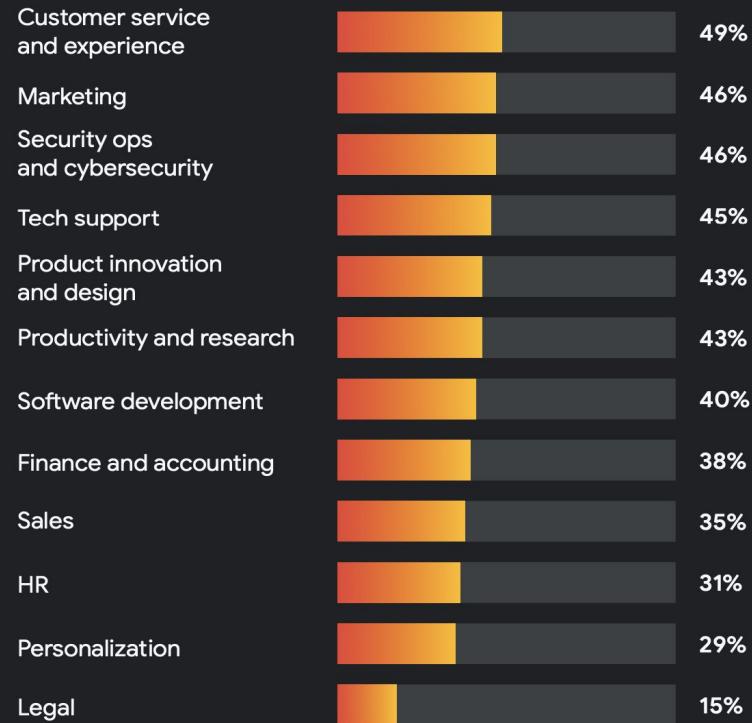


## Improved employee productivity from gen AI



Executives reporting improved productivity with gen AI solutions: 2025: n=2372; Question text: In what ways did gen AI directly increase productivity for your company? Please select all that apply.

## Cross-industry AI agent use cases

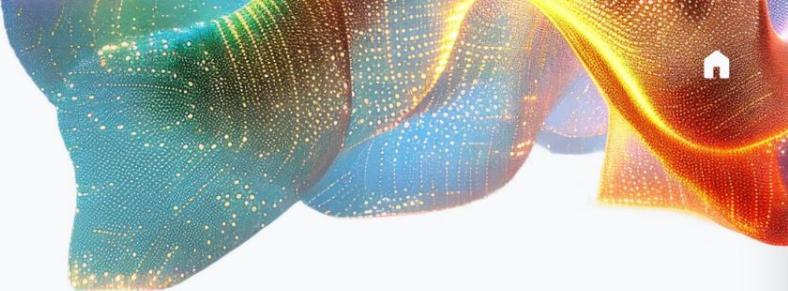


Executives whose organization is leveraging agentic AI: n=1814; Question text: What use cases has your company deployed AI agents for?



## Top gen AI impacts across business areas

Business benefits are used to measure the health of technology transformation initiatives and serve as leading indicators of financial performance.



01

Productivity

02

Customer experience

03

Business growth

04

Marketing

05

Security

70%

of executives report improved productivity from gen AI (vs. 71% in 2024)

63%

report improved customer experience from gen AI (vs. 60% in 2024)

56%

report business growth from gen AI (vs. 63% in 2024)

55%

report meaningful impact to marketing from gen AI (new to 2025)

49%

report security improvements (vs. 56% in 2024)

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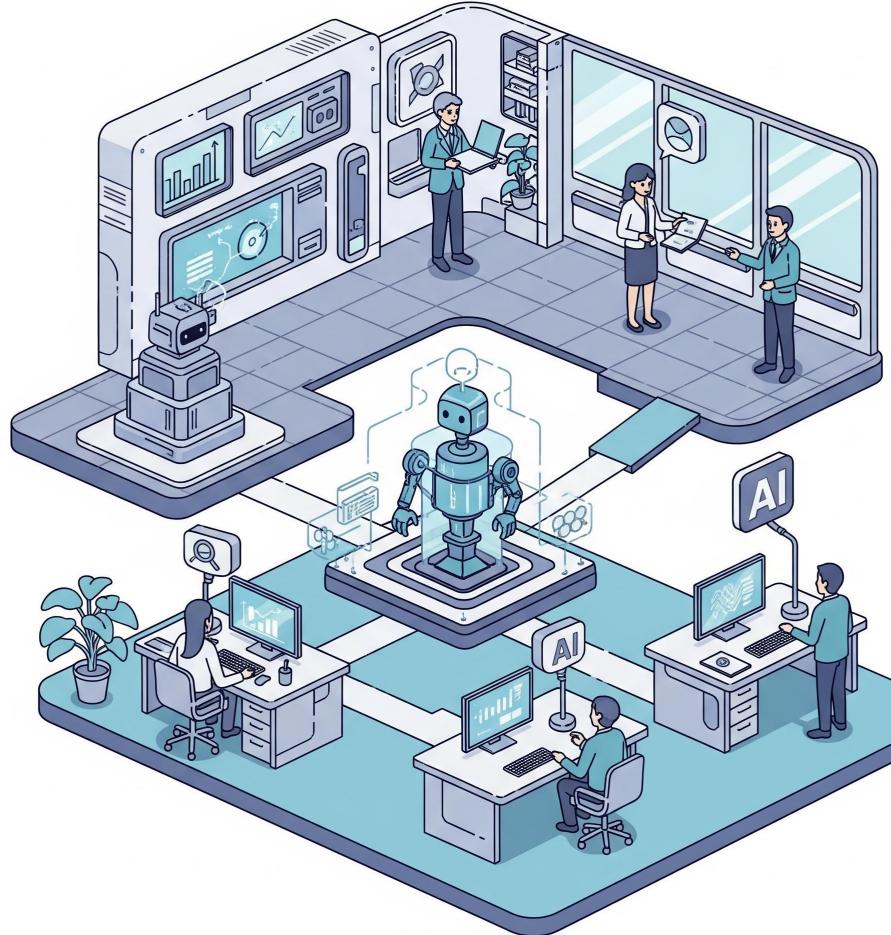
# AI-Driven Organizations

# AI-Driven Organization

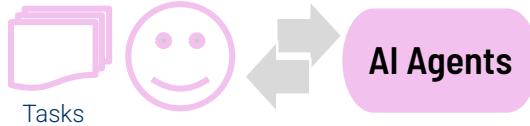
An **AI-Driven organization** is one where AI systems act as the core operational substrate, autonomously driving workflows, decisions, and resource allocation; here, humans participate as observers and governors!

## Think AI-First!

- From +AI to AI+
- AI as the operative substrate.
- Dynamic workflows vs. static hierarchies.
- Human oversight and governance roles.



# Levels of Automation in AI-Driven Processes



## Level 1 - Human + AI

AI Agent augment human capacity to operate a task



## Level 2 - AI + Human

AI Agent implement tasks with Human-In-The-Loop task support



## Level 3 - AI + AI w/ Human Oversight

Group of AI Agents implement tasks with Human-In-The-Loop task observation

# AI-Driven Organization Challenge

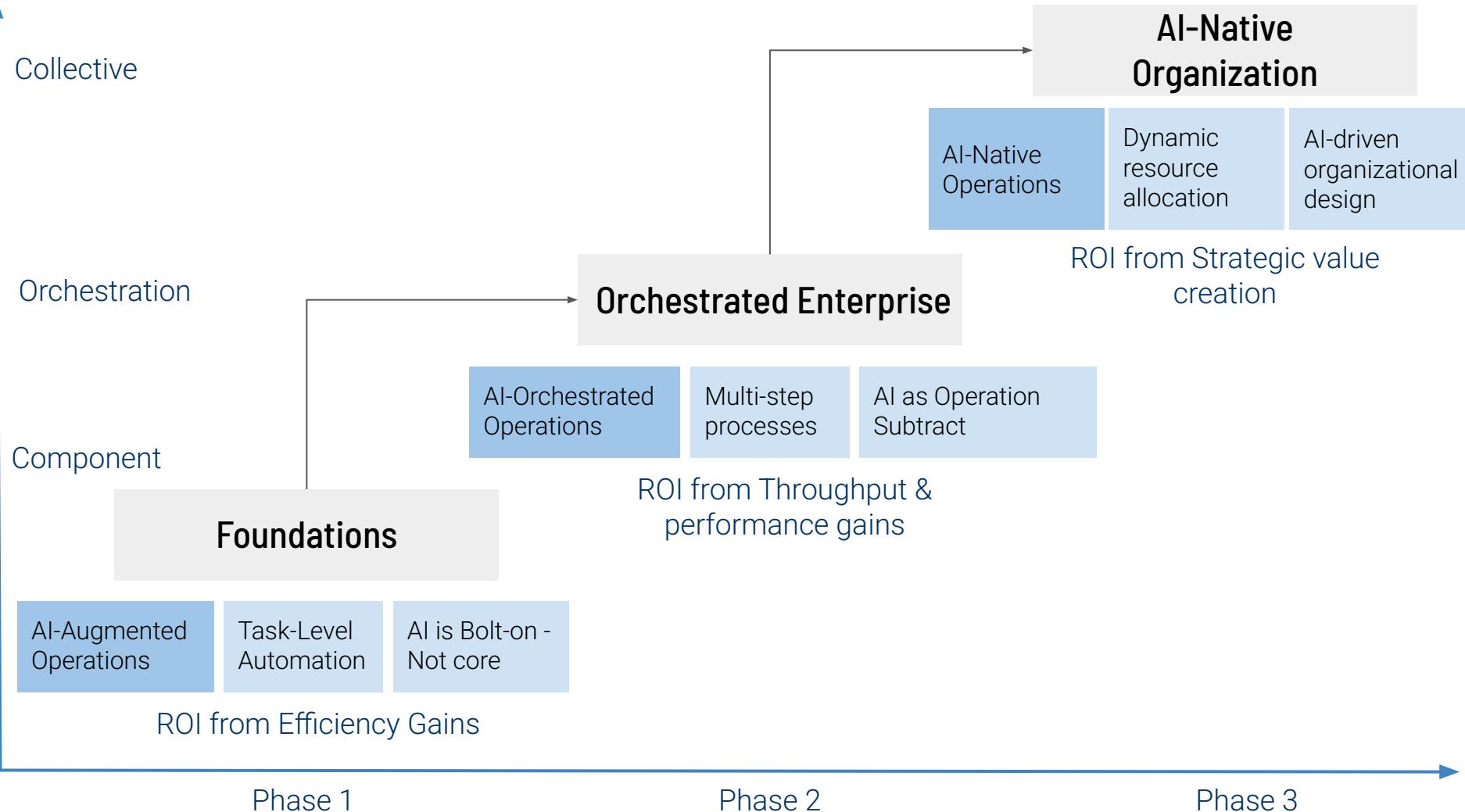
**Rethink the whole operation automated by AI-agents**

- What can be automated?
- What requires Human-oversight?
- What should not be automated?

Challenge:

- Is it feasible?
- Is it worthwhile?
- Is it ROI-positive?





# Reimagining Clinical Care in an AI-First Organization

## Current State:

- Clinicians manually synthesize scattered data
- High cognitive load → errors, delays, burnout

## AI-Driven State:

- AI agents unify data & generate dynamic differential lists
- Auto-orchestrates tests, consults, care steps
- Clinicians act as reviewers and governors

## How to do it?

- Identify decision points and data inputs.
- Aggregate & Structure Data
- Configure AI Models & Pipelines – Diagnostic triage, differential diagnosis, treatment recommendation, and clinical monitoring



# Reimagining Customer Service in an AI-First Organization

## Current State:

- Fragmented channels and siloed data
- Agents manually triage, respond, and resolve
- Long response times, inconsistent quality

## AI-Driven State:

- AI agents orchestrate end-to-end service flows
- Human agents focus on complex, emotional, and relationship-critical cases

## How to do it?

- Identify decision points and data inputs.
- Aggregate & Structure Data
- Configure AI Models & Pipelines - Triage, resolution co-pilot, and monitoring models
- Integrate AI actions inside agent desktop and



# Reimagining Energy Operations in an AI-First Organization

## Current State:

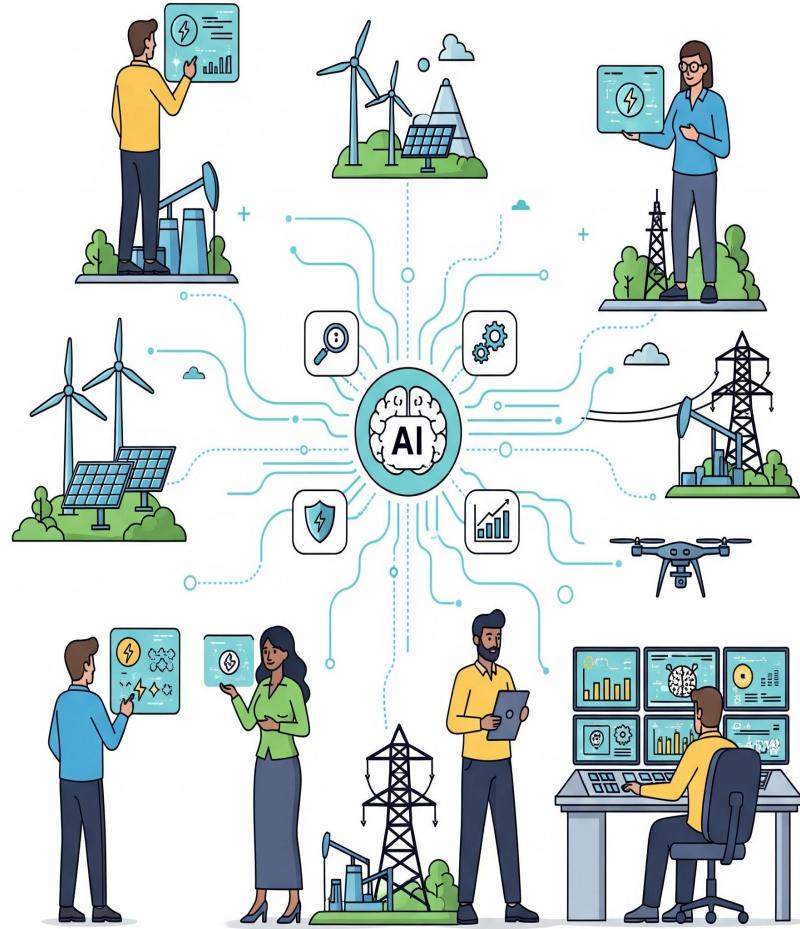
- Static load forecasts and manual balancing
- Over- or under-supply leads to energy waste Slow response to demand spikes and weather-driven variability

## AI-Driven State:

- AI agents predict real-time demand from weather, location, and historical patterns
- Automatically adjust grid supply and storage dispatch to balance load
- Dynamic pricing signals sent to consumers to shape demand

## How to do it?

- Identify decision points; aggregate data.
- Configure AI Models & Pipelines – Forecasting, anomaly detection, optimization, and pricing models



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# Exercise

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## Exercise: Think of your Final Project as a Solution for AI-driven business

- Think of a REAL Business Problem:
  - Local Business
  - Small-Size Business
  - Enterprise Issue
- Load details into the [Collective Exercise Document](#):
  - Update your Project Description
  - Update Project Description
- Select a real Business Problem!
- **Problem Identification:** What is the Current State?
- **Solution Ideation:** What would be a AI-Driven State?
- **Solution Design:** what do we need to be development to make it work?
- **Design your Experiment:** what a simple experiments can you design and implement to prove the point!



## Problem Identification

- Understand stakeholder needs
- Define the core problem
- Align with organizational objectives

## Solution Ideation

- Collaborate to generate diverse ideas
- Evaluate feasibility and impact
- Develop a conceptual framework

## Requirement Analysis

- Clarify detailed requirements
- Prioritize requirements
- Define acceptance criteria

## System Design

- Translate requirements into system architecture.
- Incorporate technologies
- Ensure alignment between design and objectives

## Solution Development

- Adopt best practices for coding and architecture
- Build modular and scalable components
- Focus on seamless integration and testing

*Perceived benefit of using genAi for this activity*



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