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# MICROSOFT COPILOT

Powered by OpenAI

cloudforce

# PRESENTATION AGENDA

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**Speaker Intros**

02

**Background:  
The AI Revolution**

03

**Microsoft Copilot:  
What, where, and how?**

04

**Azure OpenAI Service:  
Practical use cases**

05

**Addressing Concerns  
and Q&A**

# PRESENTER INTRO: HUSEIN SHARAF | CEO



## SEVENTEEN YEARS IN TECHNOLOGY CONSULTING

Starting at Booz Allen Hamilton in 2006, consulting to over two dozen Federal agencies including NIST, NOAA, Dept of Commerce, USDA, DHS, DOL.

## FOCUSED ON INFRASTRUCTURE + ENTERPRISE ARCHITECTURE

Specialized in designing and deploying datacenter & cloud infrastructure for large-scale, high visibility systems in both the public and private sector.

## TODAY LEADS CLOUDFORCE

The fastest growing Microsoft-focused consultancy in the DC area, providing SME consulting to Fortune 500s on strategically leveraging Microsoft's cloud platforms.

# CO-PRESENTER INTRO: ELLIOT ETTER | SR. CLOUD SOLUTIONS ADMINISTRATOR



## **3 YEARS OF ENTERPRISE INFRASTRUCTURE MANAGEMENT**

Initially studying and working on software development skills, have spent the last 3 years with Cloudforce managing and administering critical business systems for globally distributed organizations.

## **FOCUSED ON CLOUD ADOPTION & INFRASTRUCTURE ADMINISTRATION**

Supporting Cloudforce's client portfolio and constructing cloud adoption strategies to modernize applications and infrastructure.

## **TECHNOLOGIST AT CLOUDFORCE**

Leading Cloudforce and its fast-growing client base through complex business challenges and designing solutions that give them the edge in cloud computing.

# CO-PRESENTER INTRO: RYLAND DEGREGORY | SR. CLOUD SOLUTIONS ENGINEER



## **EIGHT YEARS OF ENTERPRISE IT EXPERIENCE**

Spent 5 years at Fortune 100 employer as a lead engineer in their global cloud adoption and infrastructure automation CoE's. Led the rearchitecting of a leading financial services data analytics platform into a SaaS product.

## **FOCUSED ON APP MODERNIZATION AND PROCESS IMPROVEMENT**

Specialized in orchestrating complex system integrations, streamlining cloud operations, and developing DevOps & platform engineering tooling.

## **BRINGING THE CLOUD DOWN TO EARTH**

Providing guidance and best practices for rehosting and refactoring monolithic applications into cloud-native architectures. Helping clients utilize DevOps and SRE principals to enhance the resilience and security of workloads running in Azure.

# PARTNER INTROS

**DWAYNE CHERRY**

AZURE FEDERAL CIVILIAN SALES DIRECTOR  
MICROSOFT



**CHRIS INGEHOLM**

ACCOUNT TECHNOLOGY STRATEGIST  
MICROSOFT



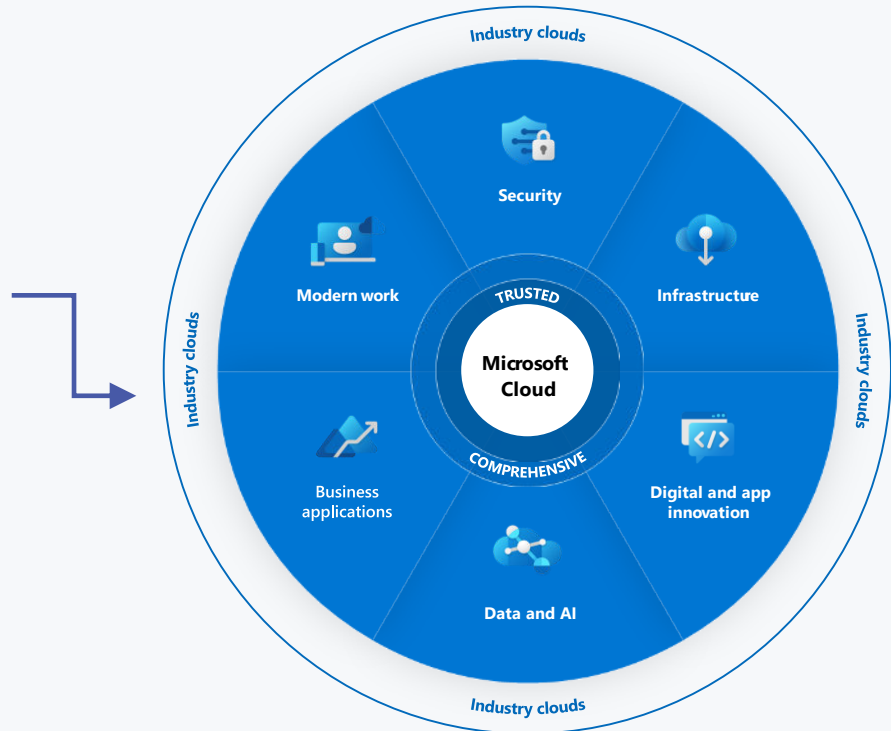
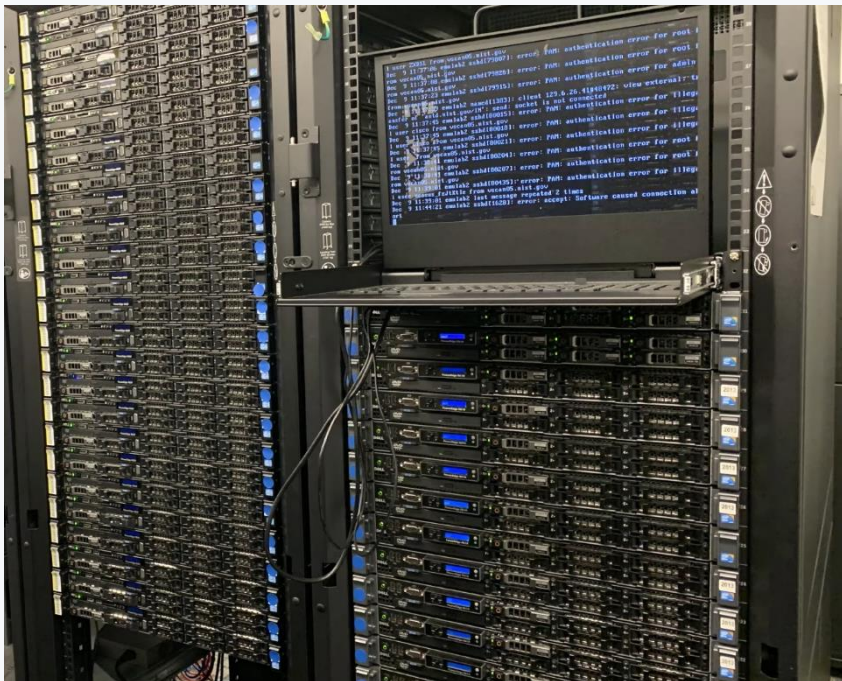
**ED MULLIN**

EXECUTIVE DIRECTOR  
BALTIMORE ROBOTICS CENTER



# THE CLOUD REVOLUTION

A story about the parallels between the datacenter to cloud revolution, and the current AI revolution



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# MICROSOFT'S INVESTMENT

What, when, and why?



## PREVIOUS INVESTMENTS

Microsoft previously invested over a billion dollars in OpenAI, the makers of ChatGPT and DALL-E, in two rounds in 2019 and 2021.



## MOST RECENT INVESTMENT

In January of this year, Microsoft announced another \$10 billion investment in OpenAI, leading to a 49% stake in the company and valuing it at \$29 billion.



## BUT, WHY?

To have priority access to cutting edge AI research and be the first to market commercializing OpenAI's capabilities embedded in Microsoft 365 and Azure.

"I HAVE NOT SEEN  
SOMETHING LIKE  
THIS SINCE I WOULD  
SAY 2007-2008,  
WHEN THE CLOUD  
WAS JUST FIRST  
COMING OUT,"

SATYA NADELLA – CEO, MICROSOFT



# 2023 WORK TREND INDEX: ANNUAL REPORT

The intensity of work and always-on comms are outpacing our ability to keep up. AI is poised to create a whole new way of working.

## Calls & Meetings

**3X**

Amount by which time spent in Microsoft Teams meetings and calls has increased per week since February 2020.

## Keeping Up

**64%**

Share of people who say they struggle with having the time and energy to do their job.

## AI to the Rescue

**70%**

Share of people who would delegate as much as possible to AI to lessen their workloads.

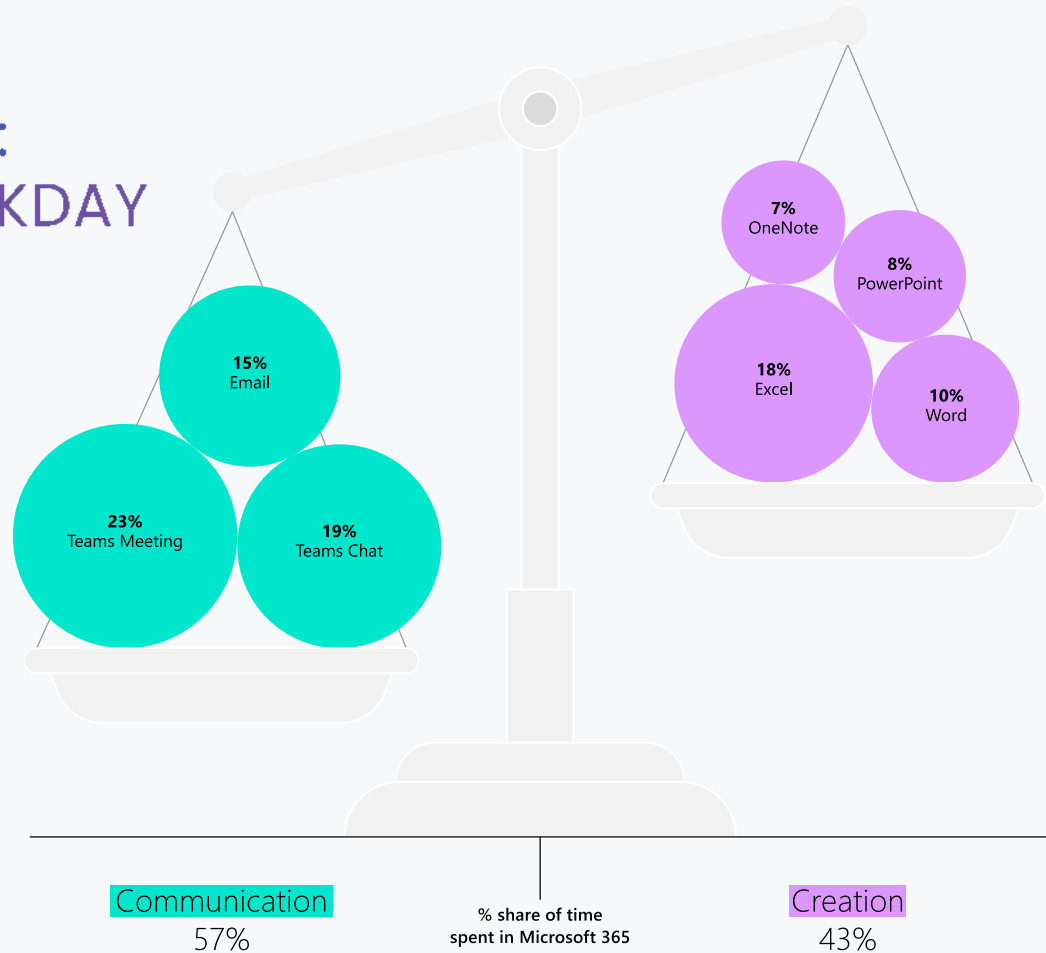
## Efficiency vs. Headcount

**2X**

Likelihood of a leader to say AI will provide value by boosting productivity vs. cutting headcount.

# 2023 WORK TREND INDEX: THE WEIGHT OF THE WORKDAY

With the balance of work hours spent communicating, 68% of people say they don't have enough uninterrupted focus time during the workday.



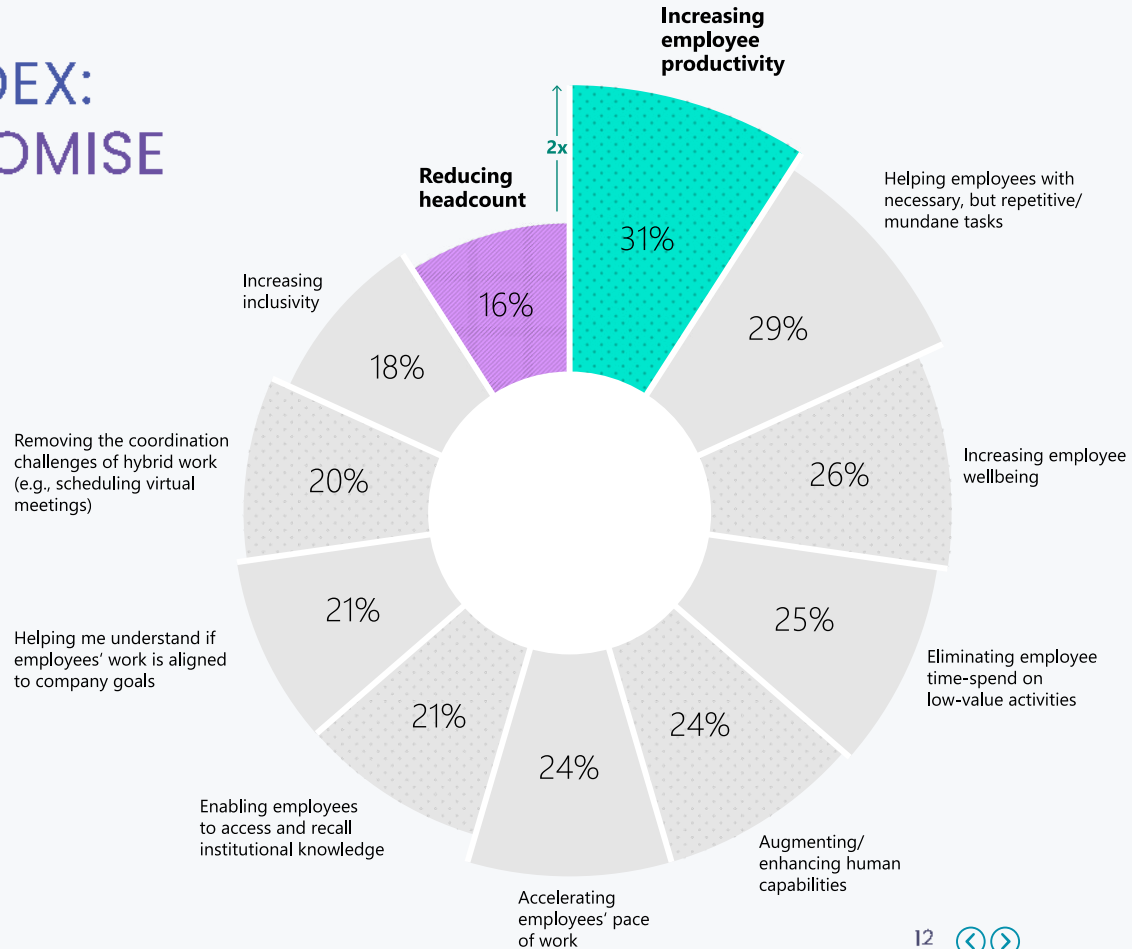
# 2023 WORK TREND INDEX: OBSTACLES TO PRODUCTIVITY

The data reveals an urgent need to make meetings more effective—people report ‘inefficient meetings’ as their number one productivity disruptor.



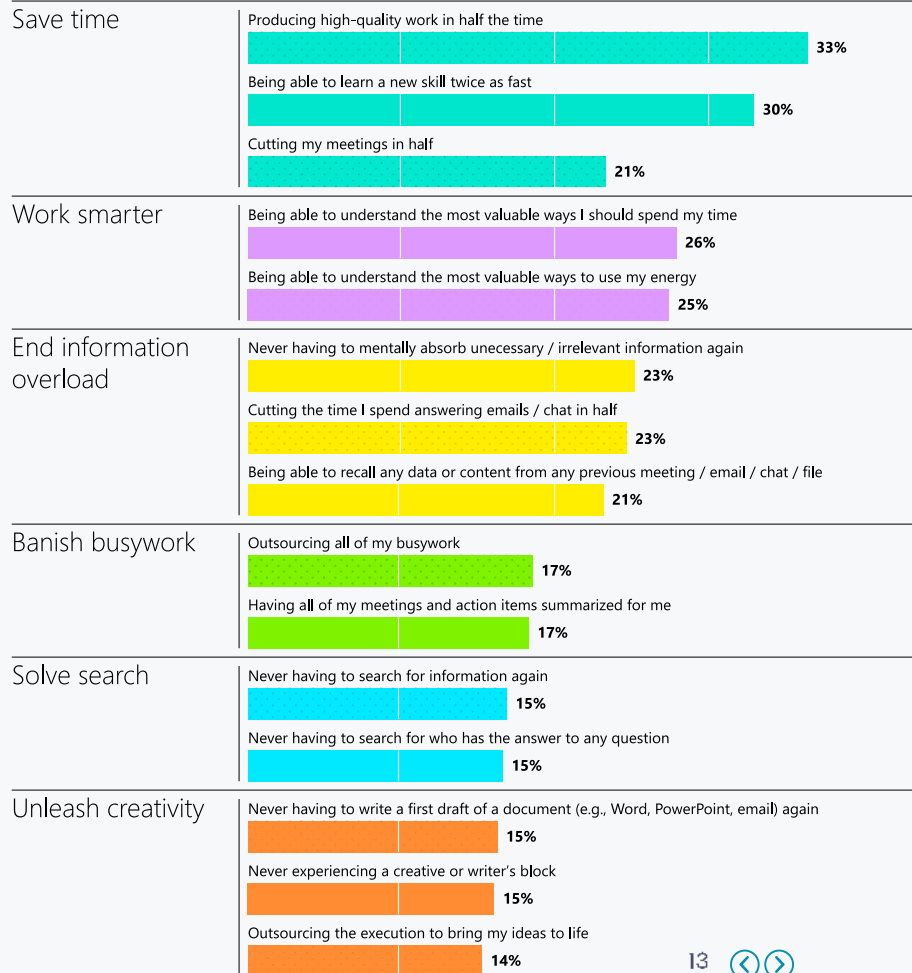
# 2023 WORK TREND INDEX: AI'S PRODUCTIVITY PROMISE

Amid fears of AI job loss, business leaders are 2x more likely to choose 'increasing employee productivity' than 'reducing headcount' when asked what they would most value about AI in the workplace.



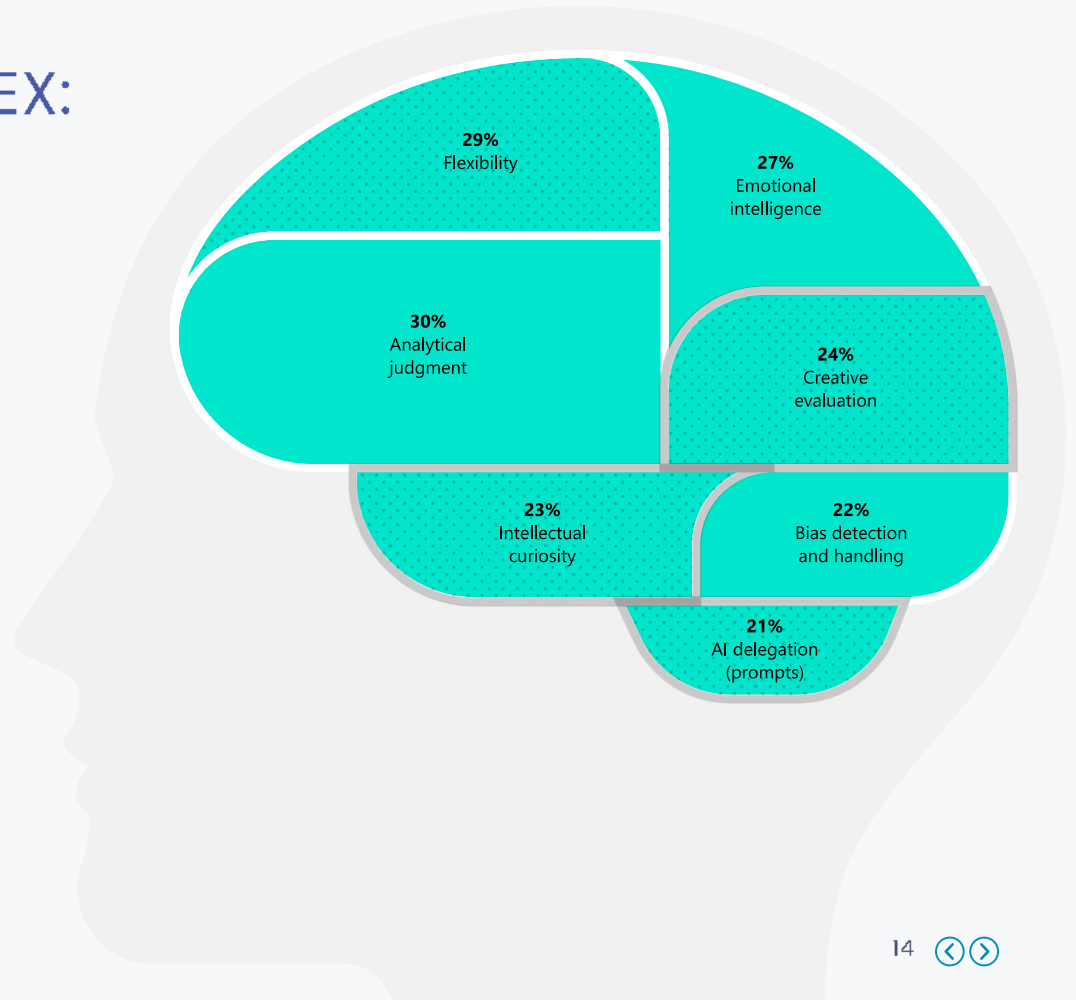
# 2023 WORK TREND INDEX: WHAT PEOPLE WANT BY 2030 (THAT AI CAN DELIVER)

Asked to imagine work in 2030, people we surveyed say they'd most value changes that saved them time—like producing high-quality work and learning new skills faster.



# 2023 WORK TREND INDEX: NEW SKILLS FOR A NEW WAY OF WORKING

'Analytical judgment,'  
'flexibility,' and 'emotional  
intelligence' top the list of  
skills leaders believe will be  
essential for employees in an  
AI-powered future.





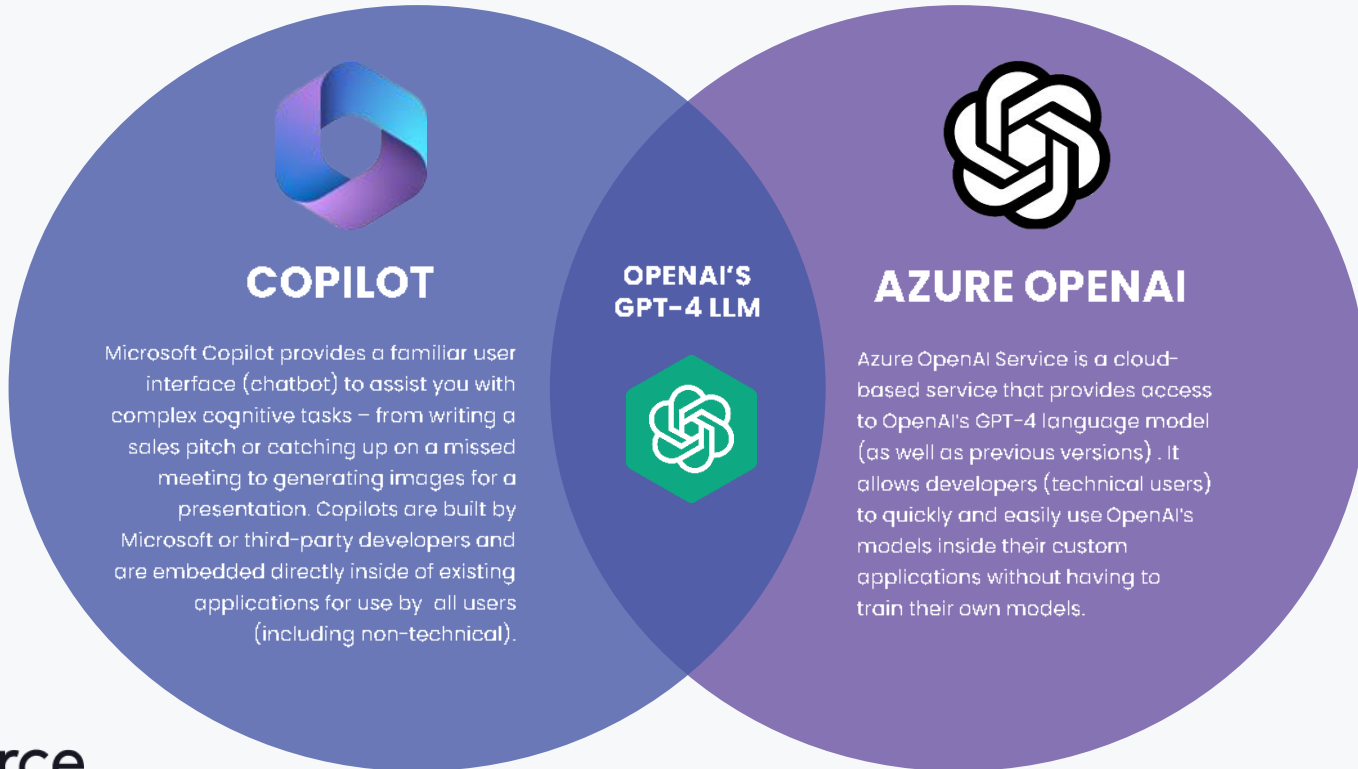


# Microsoft Build



# COPILOT VS. AZURE OPENAI SERVICE

What's the difference and what do they have in common?

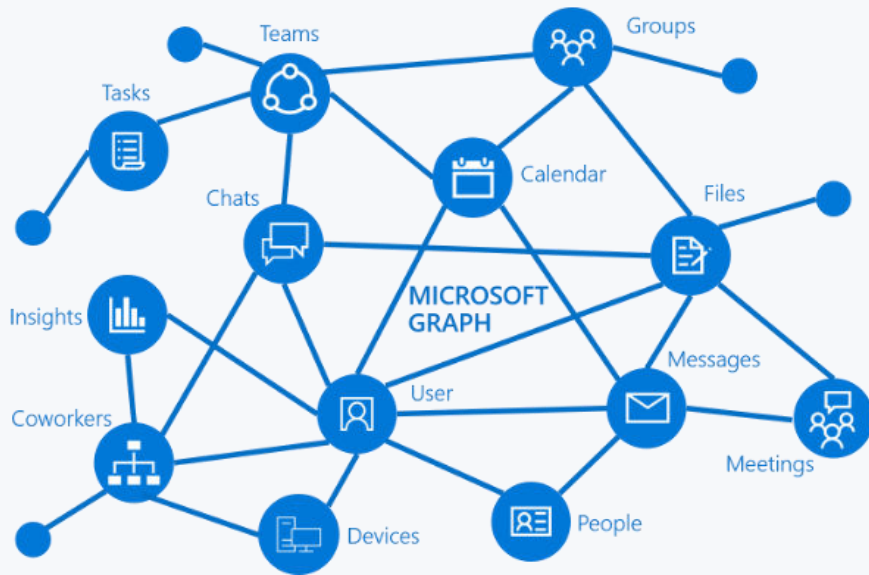




# COPILOT SHOWCASE

So, what is copilot and how will it fit into the daily routine of knowledge workers?





# WHAT IS THE MICROSOFT GRAPH?

[Microsoft Graph](#) is the gateway to data and intelligence in Microsoft 365. It provides a unified programmability model that you can use to access the tremendous amount of data in Microsoft 365, Windows, and Enterprise Mobility + Security.

Microsoft Graph exposes REST APIs and client libraries to access data on the following Microsoft cloud services:

- **Microsoft 365 core services:** Calendar, Delve, Excel, Microsoft Search, OneDrive, OneNote, Outlook/Exchange, People (Outlook contacts), Planner, PowerPoint, SharePoint, Teams, To Do, Viva Insights, Word
- **Enterprise Mobility + Security services:** Advanced Threat Analytics, Advanced Threat Protection, Azure Active Directory, Identity Manager, and Intune
- **Windows services:** activities, devices, notifications, Universal Print
- **Dynamics 365** Business Central services

# COPILOT SHOWCASE

How does it work, under the hood?



# WHERE WILL YOU FIND COPILOT?

All across the Microsoft ecosystem, Copilot will be present with a consistent and familiar user interface

## IMMEDIATE PLANS



### MICROSOFT 365 COPILOT

Integrated into the apps you already use every day such as Word, Excel, PowerPoint, Outlook, Teams and more. Designed to help you unleash creativity and unlock productivity, Copilot in writes, edits, summarizes and creates right alongside you.



### WINDOWS COPILOT

Making Windows 11 the first PC platform to embed centralized AI assistance. By extending Bing Chat plugins to Windows, developers can integrate their apps within Windows Copilot to better serve their customers and increase engagement on native Windows applications.



### GITHUB COPILOT X

GitHub Copilot is evolving to bring chat and voice interfaces, support pull requests, answer questions on docs, and adopt OpenAI's GPT-4 for a more personalized developer experience - from automating unit testing to writing an entire app from scratch from reference documentation.



### SECURITY COPILOT

Empower your defenders to detect hidden patterns, harden defenses, and respond to incidents faster with generative AI—now in preview. Amplify your team's impact and efficiency with intelligent guidance informed by 65 trillion daily signals.



### COPILOT FOR BI

Power BI already has Natural Language Query capabilities built-in; Copilot will greatly enhance the ability for non-technical users to glean insights from multiple datasets using chat prompts to build visualizations via the Microsoft Fabric.

# WINDOWS COPILOT

A glimpse of what's coming to Windows 11 in June..



# TEAMS COPILOT (+ PLUGINS)

The first truly intelligent chatbot, built to answer your employee's questions and take real-time actions..



# GITHUB COPILOT X

A real-world example...




# What is Azure OpenAI Service?

An Azure AI service that allows developers to use large-language generative AI models for enterprise-grade applications. Developers can apply these coding and language models to a variety of use cases, such as writing assistance, content generation, code generation, summarization and more.

With built-in responsible AI and enterprise-grade Azure security, the service is designed to detect and mitigate harmful use.

## Did you know?



Global generative AI market size is expected to reach **\$53.9B by 2028**, rising at **32.2% CAGR**.

Global generative AI applications market size (gaming, design, ad) is expected to reach **\$4.5B by 2025**, rising at **26.6% CAGR**.

(Source: [GlobeNewsWire](#), [MarketsandMarkets](#))





# Large pretrained foundational AI models fine-tuned with your parameters and your data

**GPT-3**

Generate and Understand Text

**Codex**

Generate and Understand Code

**DALL-E**

Generate images from text prompts

**ChatGPT**

Generate and personalize conversations

## Top use-cases customers are innovating with ...

**Summarization**

Product reviews, articles, long-form reports

Efficient bot-to-human handoff with summary

Insights from unstructured data

**Conversational AI**

Customer service bots, Enterprise Q&A

End-to-end contact center solution

**Faster Software Development**

Code generation & autocomplete

Code documentation, refactoring

**Writing Assistance**

Creative ideation & design

Content writing assistance

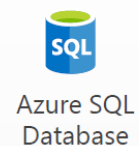
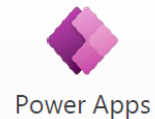
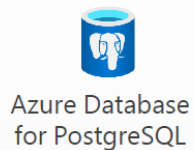
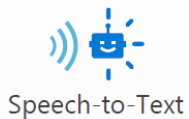
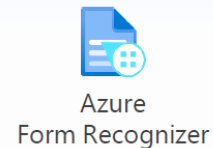
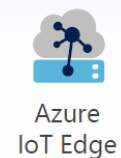
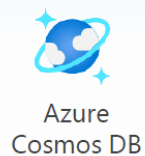
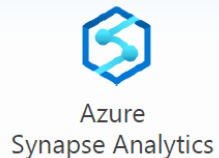
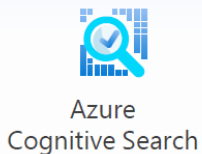
**Knowledge mining**

Domain specific research

Social media trend analysis

Surface cross-functional insights in enterprises

... across these industries



## USE CASE

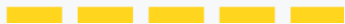
CarMax turns customer reviews into custom content



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## USE CASE

# CARmax<sup>®</sup>



**CarMax, the largest used car retailer in the U.S., is making it easier for customers to find the most useful information:**

- Potential buyers can now see summaries of customer reviews for every make, model and year of vehicle that CarMax sells, about 5,000 combinations in a vast inventory of approximately 45,000 cars.
- The summaries provide easy-to-read takeaways from real customer reviews: whether it's a great family car, how comfortable the ride is or if there's enough space to pack for weekend adventures.
- CarMax has also used the models to create new website content that allows customers to easily see what's new for each version of a car, helping them decide whether new features are worth splurging on.
- CarMax generated the massive amount of original content in just a few months — a rate previously impossible — with powerful GPT natural language models via the Azure OpenAI Service.

**“WITH AZURE OPENAI SERVICE, WE ARE ABLE TO CREATE CONTENT THAT EMPOWERS OUR CUSTOMERS SO THEY CAN BE INFORMED BEFORE THEY MAKE A DECISION.”**

**SHAMIM MOHAMMAD –  
CARMAX EXECUTIVE VICE PRESIDENT & CIO/CTO**

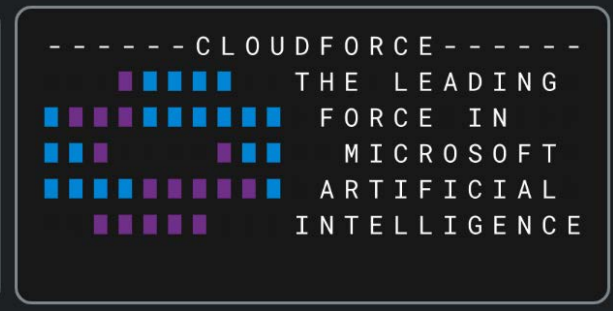
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## USE CASE

### VESTABOARD

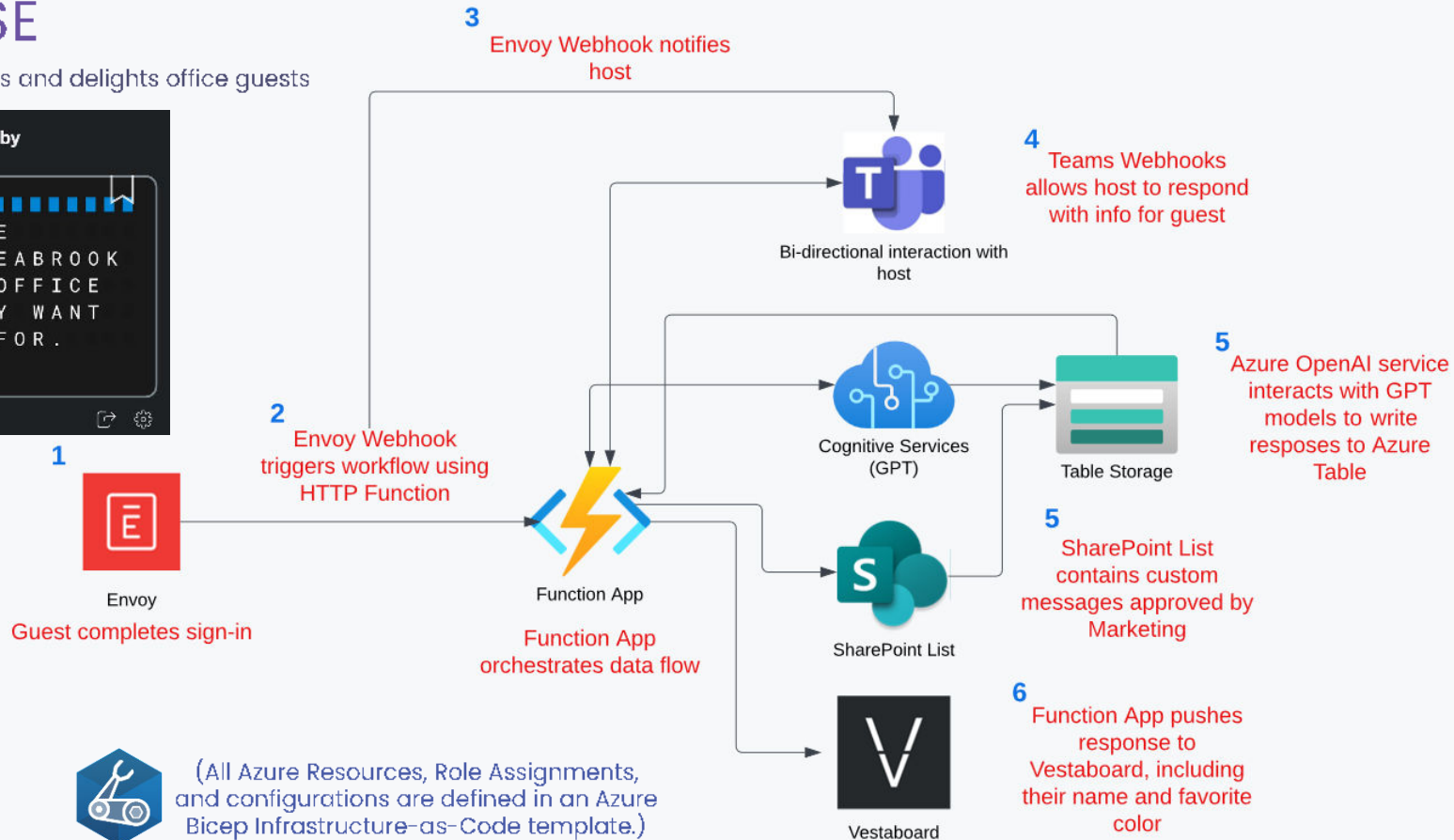
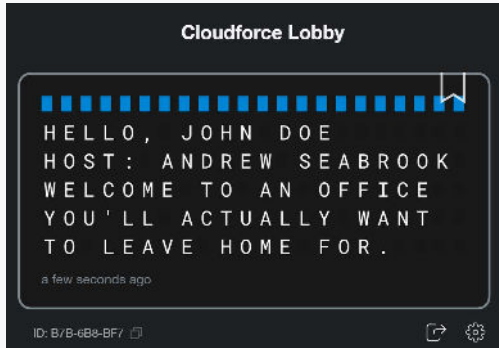
The Vestaboard is a modern take on the classic split-flap display boards that were commonly used in airports, train stations, and other public places to display information. It is a connected display panel consisting of a grid of individual mechanical flaps, each containing a unique character or symbol. These flaps can flip to display letters, numbers, and various symbols.

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# USE CASE

Cloudforce surprises and delights office guests



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## APIS AND SERVICES USED

- [Envoy Event Webhook](#)
- [Azure OpenAI Service REST API](#)
- [Azure PowerShell](#)
- [Microsoft Graph PowerShell](#)
- [Vestaboard Read/Write REST API](#)
- [Vestaboard API](#)
- [Teams Outbound Webhook](#)
- [PnP PowerShell](#)
- [Azure Resource Manager \(Bicep\)](#)
- [Azure Functions Bindings](#)

# BUT... WHAT ABOUT DATA PRIVACY? AND SECURITY!?

It's all about the user context and respecting existing access rules





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# ADDITIONAL RELEVANT CONCERNS

Let's dig into each of these, one by one.

01

## HOW DOES COPILOT PROTECT SENSITIVE BUSINESS INFORMATION AND DATA?

Built on Microsoft's comprehensive approach to security, compliance, and privacy, Copilot inherits your existing Microsoft products' valuable security, compliance, and privacy policies and processes. Two-factor authentication, compliance boundaries, privacy protections, and more make Copilot the AI solution you can trust.

02

## ARE COPILOT RESPONSES ALWAYS FACTUAL?

The responses that generative AI produces aren't guaranteed to be 100% factual. While Microsoft continues to improve responses to fact-based inquiries, people should still use their judgment when reviewing the output before sending them to others. Microsoft and OpenAI's teams continue to improve algorithms to proactively address issues, such as misinformation and disinformation, content blocking, data safety, and preventing the promotion of harmful or discriminatory content in line with responsible AI principles

03

## HOW DO I KNOW WHERE THE ANSWERS ARE COMING FROM?

Copilot includes cited sources. Copilot cites both public and private sources when applicable, so you're able to see links to the content it references. Users can then use their own best judgement to decide if the source is credible, just as they would with a traditional web search.

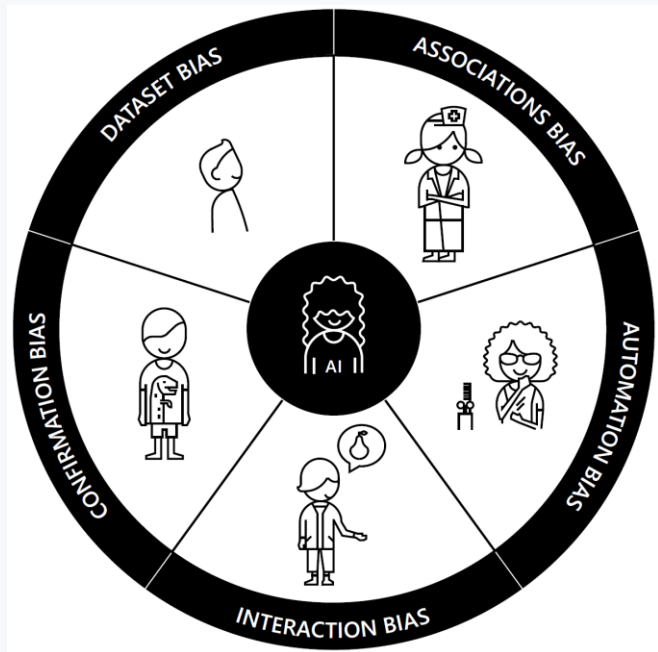
04

## IS INHERENT BIAS POSSIBLE WITHIN MICROSOFT'S AI PRODUCTS?

Bias in AI will happen unless it's built from the start with inclusion in mind. The most critical step in creating inclusive AI is to recognize where and how bias infects the system. The first inclusive design principle is to recognize exclusion. Microsoft breaks down AI bias into five distinct categories so product creators can identify issues early on, anticipate future problems, and make better decisions along the way.

# BIAS TYPES AND EXAMPLES

Understanding the types and sources of bias allows AI engineers to detect and mitigate bias in models



## CONFIRMATION

Shopping sites that only show recommendations for things similar to what the customer has already bought.

## DATASET

Machine vision technologies — such as web cameras to track user movements — that only work well for small subsets of users based on race, because the initial training data excluded other races and skin tones.

## ASSOCIATION

Language translation tools that make gender assumptions (e.g. pilots are male and flight attendants are female).

## AUTOMATION

Beautification photo filters reinforce a European notion of beauty on facial images, like lightening skin tone.

## INTERACTION

Humans deliberately input racist or sexist language into a chatbot to train it to say offensive things.

# BUT WAIT, THERE'S MORE! MICROSOFT FABRIC

The biggest Microsoft data breakthrough since SQL server was introduced in 1989...



by first mark venture capital and this shows

# The 2023 ML, AI, and Data Landscape



# TODAY'S DATA PRODUCT LANDSCAPE



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## ONELAKE TO RULE THEM ALL

- OneLake is a single, unified, logical data lake for the whole organization.
- It is essentially the storage account for all of your data utilized within Microsoft Fabric.
- As the name suggests, it is designed to be the single place for all your analytics data.
- OneLake comes automatically with every Microsoft Fabric tenant with no infrastructure to manage.

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# ONELAKE ARCHITECTURE

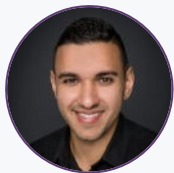


“YOU CAN ONLY BE RELEVANT  
IN TECHNOLOGY IF YOU ARE  
GOOD ENOUGH TO SEE THE  
WAVES OF **CHANGE**  
AND THEN REORIENT YOUR  
TECHNOLOGY AND  
INNOVATION AGENDA”

Satya Nadella  
CEO, Microsoft

# COPILOT + AZURE OPENAI WORKSHOP AND Q&A

Today's Presenters & Partners 



**HUSEIN SHARAF**

Founder & CEO  
Cloudforce



**ED MULLIN**

Executive Director  
Baltimore Robotics Center



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Account Technology Strategist  
Microsoft

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**CLOUDFORCE**  
ON LINKEDIN 

