



sqlbits

SPEAKEASY



# AI Tools for Developers

Cognitive Services, Bot Framework, and Azure Search

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# Azure Data + AI

Data

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Data Modernization on premises



Data modernization to cloud



Globally distributed apps



Cloud Scale Analytics

+

AI

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AI apps & agents



Knowledge mining



Machine learning



# SAVING \$5.2M WITH INTELLIGENT WATER UTILIZATION

## Advanced Analytics and AI predict water usage

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### Customer need

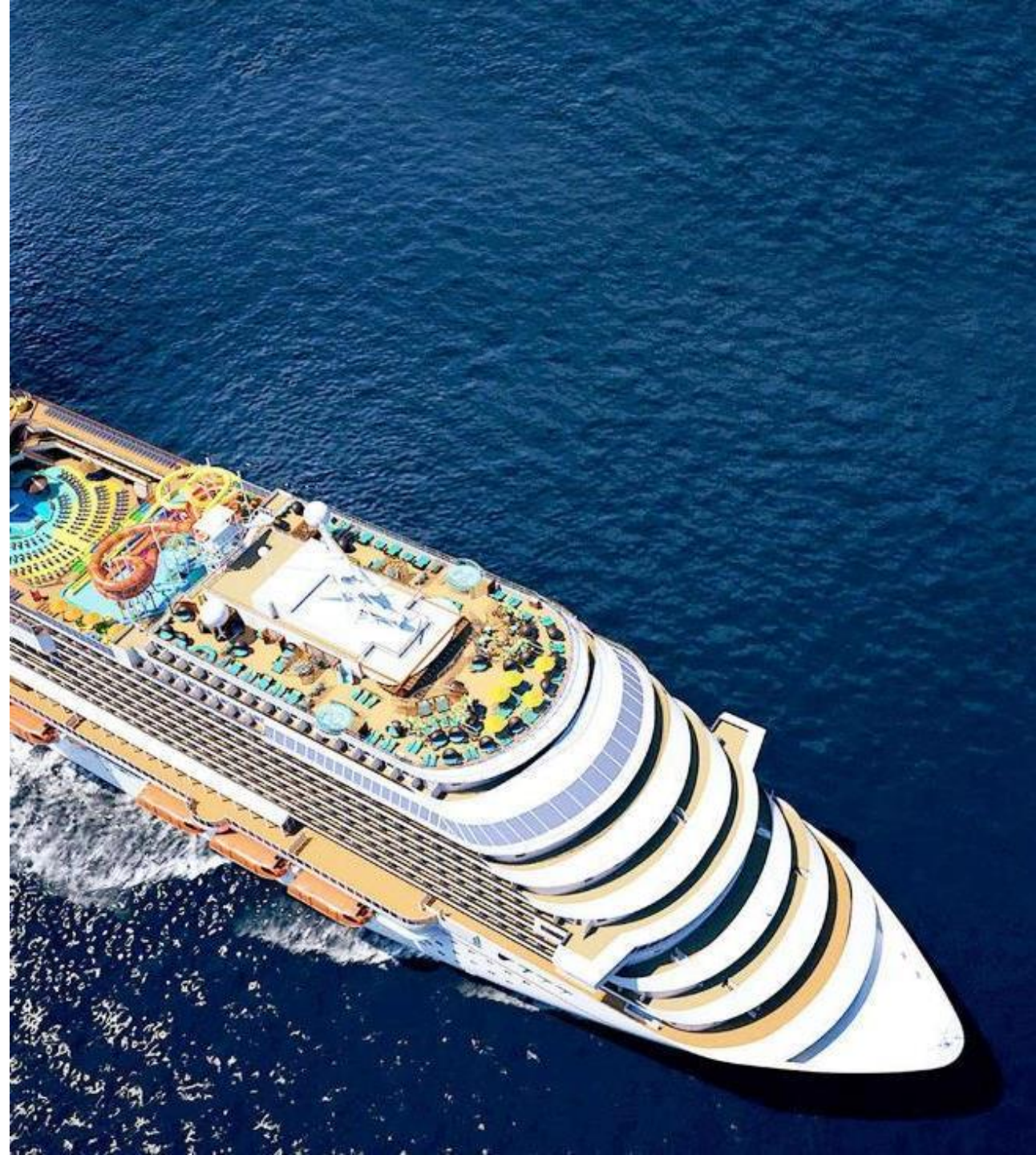
Carnival cruise line struggled to accurately predict water usage onboard ships, leading to costly water storage or production.

### Impact

- Advanced Analytics model optimizes onboard water storage, saving \$200k per ship annually
- Historical and real-time data analysis enables predictive maintenance



<https://enterprise.microsoft.com/en-us/customer-story/industries/hospitality-and-transportation/carnival-cruises-testing-waters-machine-learning-cortana-intelligence-suite/>



DATA IS ABOUT DOING.  
...NOT ABOUT DATA.



# AI

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Vision

Speech

Language

Customized language understanding **Text-to-speech** Content moderation **Spell**

**Speech translation** check

Custom image classification

Speaker recognition Entity linking

Sentiment analysis, & augmentation

key phrase extraction **Image tagging**

**Custom** Object detection Text translation **Intend**

**voice** **OCR handwriting** analysis

Emotion detection **recognition** Custom translation

**Face** Custom speech Assisted text moderation

**identification** Speech transcription

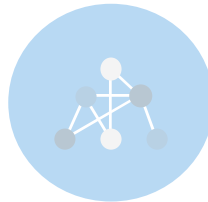
# Azure AI

## AI Apps & Agents



Azure Bot Service  
Azure Cognitive Services

## Machine Learning



Azure Databricks  
Azure Machine Learning  
Azure AI infrastructure

## Knowledge Mining



Azure Cognitive Search

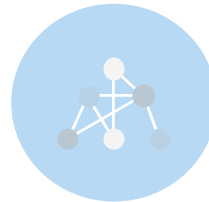
# Azure AI

## AI Apps & Agents



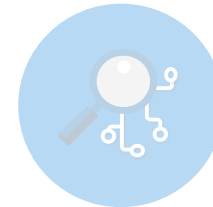
**Azure Bot Service**  
**Azure Cognitive Services**

## Machine Learning



Azure Databricks  
Azure Machine Learning  
Azure AI infrastructure

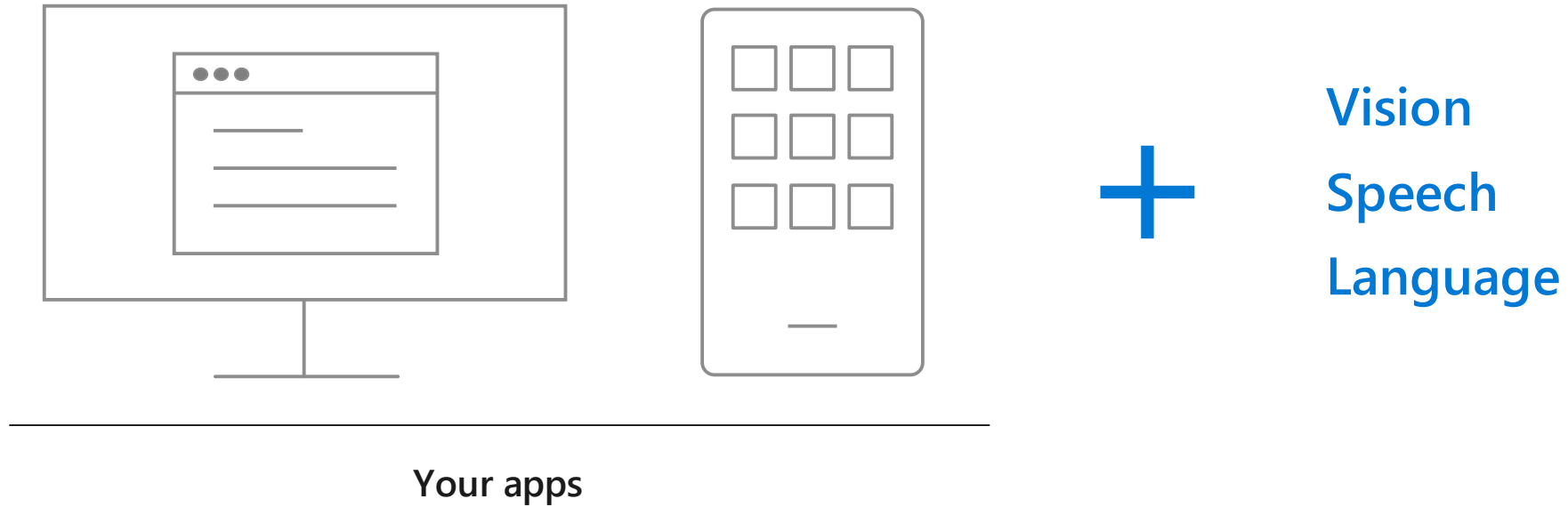
## Knowledge Mining



Azure Cognitive Search



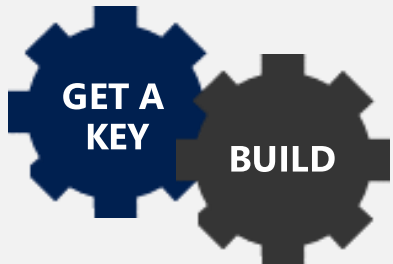
# Building AI Apps & Agents



# Why Microsoft Cognitive Services?

## Easy

Roll your own with REST APIs  
Simple to add: just a few lines of code required



## Flexible

Integrate into the language and platform of your choice  
Breadth of offerings helps you find the right API for your app  
Bring your own data for your custom experience



## Tested

Built by experts in their field from Microsoft Research, Bing, and Azure Machine Learning  
Quality documentation, sample code, and community support



# Microsoft Cognitive Services

Give your apps a human side



## Vision

Computer Vision  
Content Moderator  
Face  
Video Indexer



## Speech

Speech to Text  
Text to Speech  
Speech Translation  
Speaker Recognition\*



## Language

Bing Spell Check  
Translator Text  
Text Analytics  
Content Moderator



## Knowledge

QnA Maker



## Search

Bing News Search  
Bing Video Search  
Bing Web Search  
Bing Autosuggest  
Bing Entity Search  
Bing Image Search  
Bing Visual Search  
Bing Local Business Search\*



## Labs

Gesture\*  
Personality Chat\*  
Event Tracking\*  
Academic Knowledge\*  
Local Insights\*  
Knowledge Exploration\*  
Entity Linking\*  
URL Preview\*  
Answer Search\*  
Anomaly Finder\*  
Conversation Learner\*  
Acoustics\*  
Custom Decision Service\*

## CUSTOMIZATION

Custom Vision  
Service\*

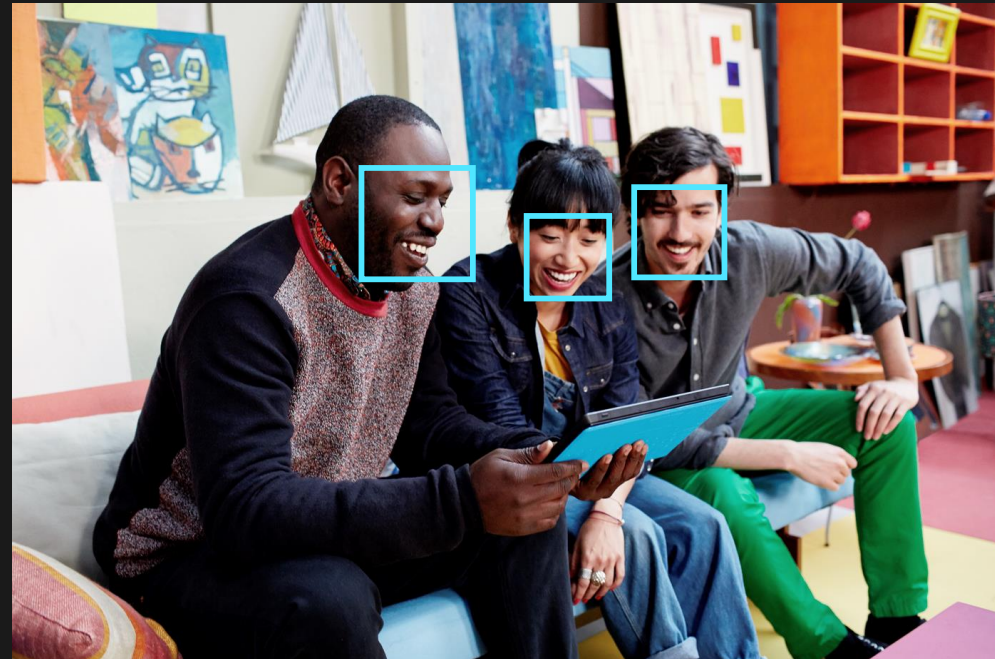
Custom Speech  
Service\*

Language  
Understanding  
(LUIS)

Bing Custom  
Search

**\*Preview**

# Cognitive Services Demo



# Cognitive Services

Infuse your apps with powerful, pre-trained AI models

Customize easily and tailor to your needs

Use language of your choice



Vision



Speech



Language



Search



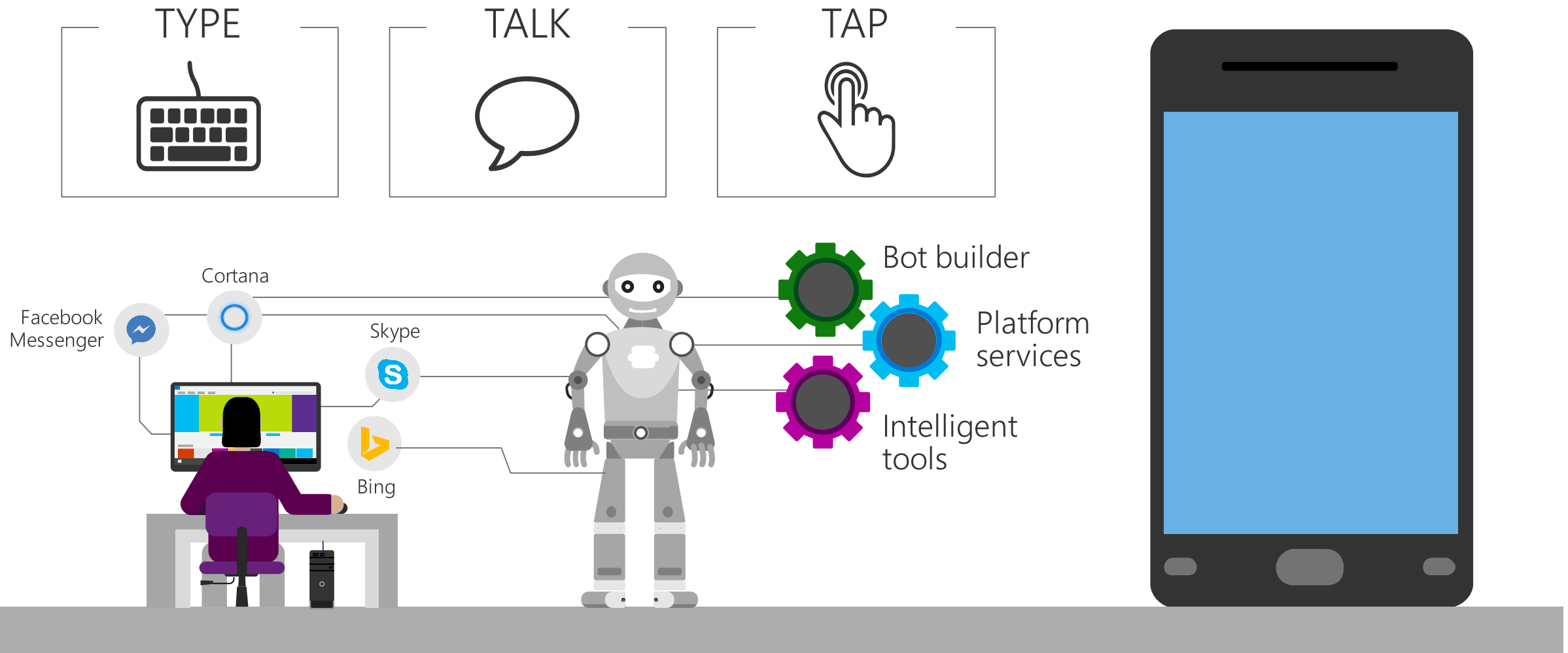
# Bot Service

Accelerate bot development with an integrated environment and pre-built templates

Engage your audience easily across multiple channels

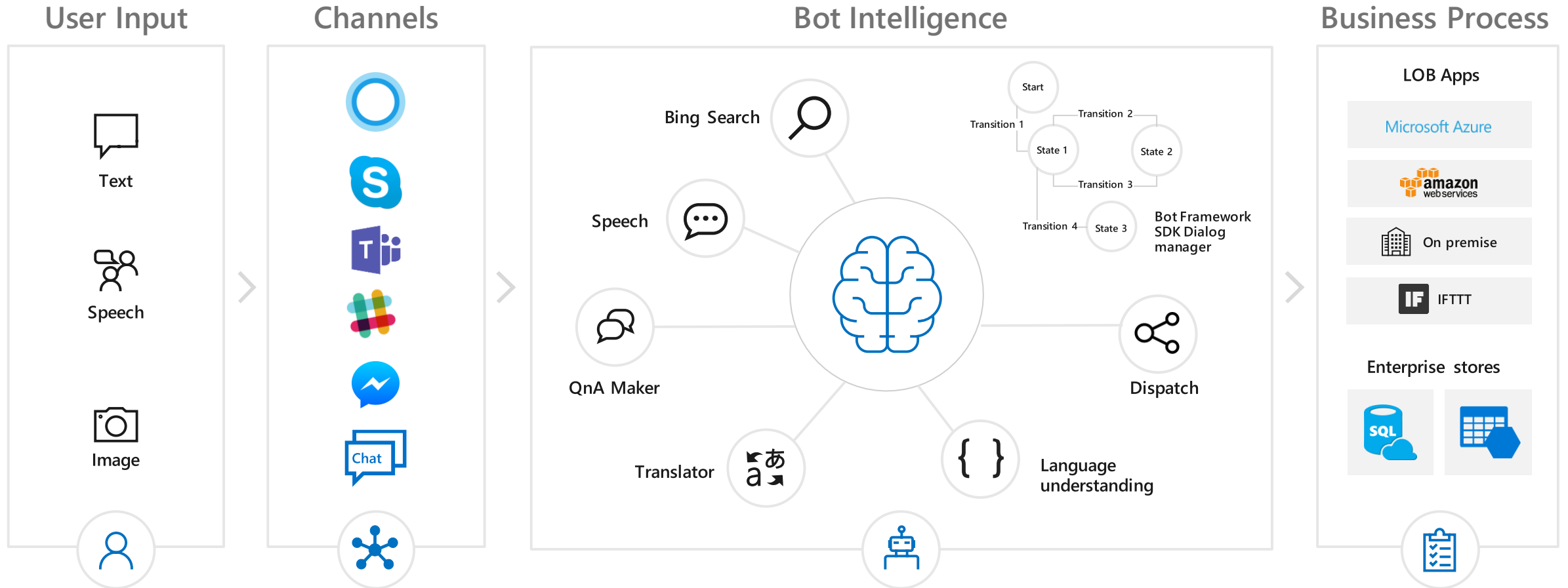


# Why a bot?





# Conversational AI: Azure Bot Service + Cognitive Services



Azure Tools

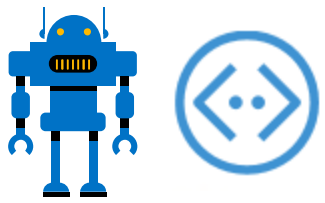
Security

Logging

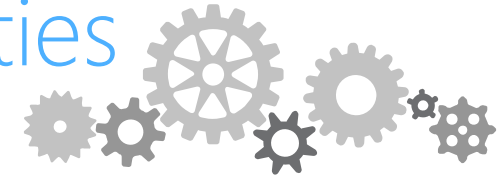
Auditing

Integration





# Bot Capabilities



## Informational Reference



Lookup, reference and information seeking scenarios backed by a data source (i.e., The Internet, organizational data sources, etc.)

"What is the train schedule for Tuesday?"

"What are the features of product xyz?"

## Transactional



Conduct a transaction in a system of record with transactional consistency and appropriate compensating logic and determinism

"Book me two tickets using my Amex card on file."

"Remove the international dialing plan. From my account."

## Advisory Intelligence



Prescriptive guidance via "expert systems" backend based on user input

"How much would I save if I got rid of premium cable channels?"

"Should I add an increased data component to my service plan?"

## Social Conversational

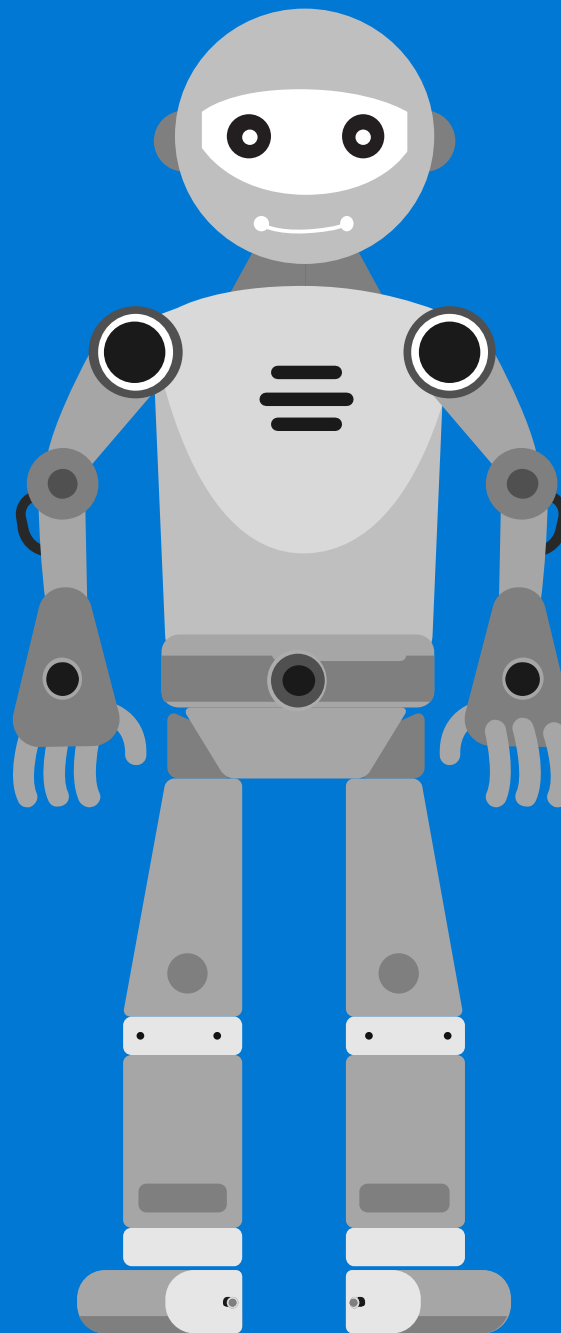


Ability to sense sentiment and engage in open-ended conversation within bot area of "expertise"

"I'm getting frustrated by this conversation!"

"Your product is horrible. Is there anyone I can talk to about it?"

Bot Demo





**200,000 customers** get information on shipments, rates, and UPS locations with the customer service chatbot



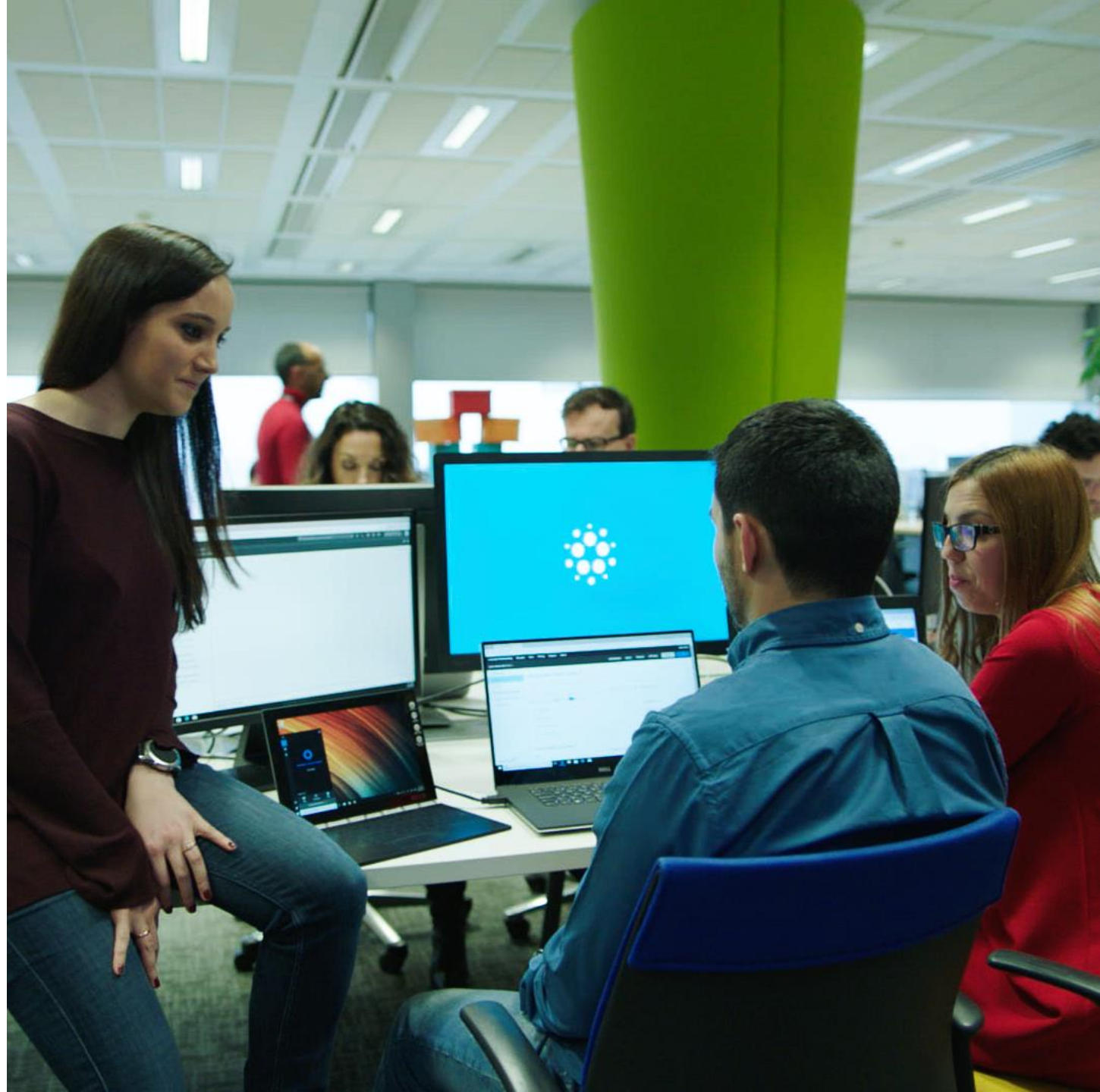
**70%** of the 600 million technical support cases per year are handled by AI



*Telefonica*

**"We use Bot Service and Cognitive Services to help people interact simply and naturally with technology."**

Irene Gomez, Aura Global Director









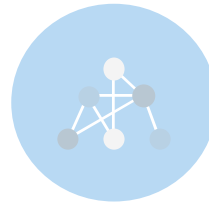
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## Knowledge mining



Azure Cognitive Search

# What is Knowledge Mining?

Azure Search and Cognitive Services



Understanding the latent value in all content

# Knowledge Mining with Azure Search

## Documents



## Cognitive skills



Key Phrase extraction



Organization entity extraction



Face detection



Custom skills



Location entity extraction



Persons entity extraction



Celebrity recognition



Landmark detection



Sentiment analysis



Language detection

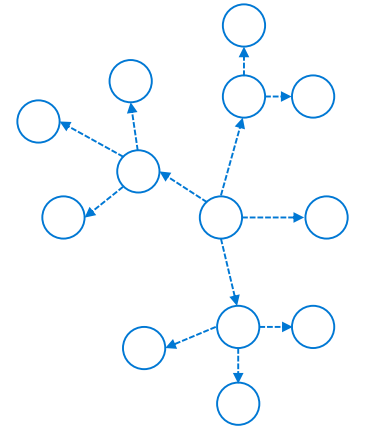


Tag extraction



Printed text recognition

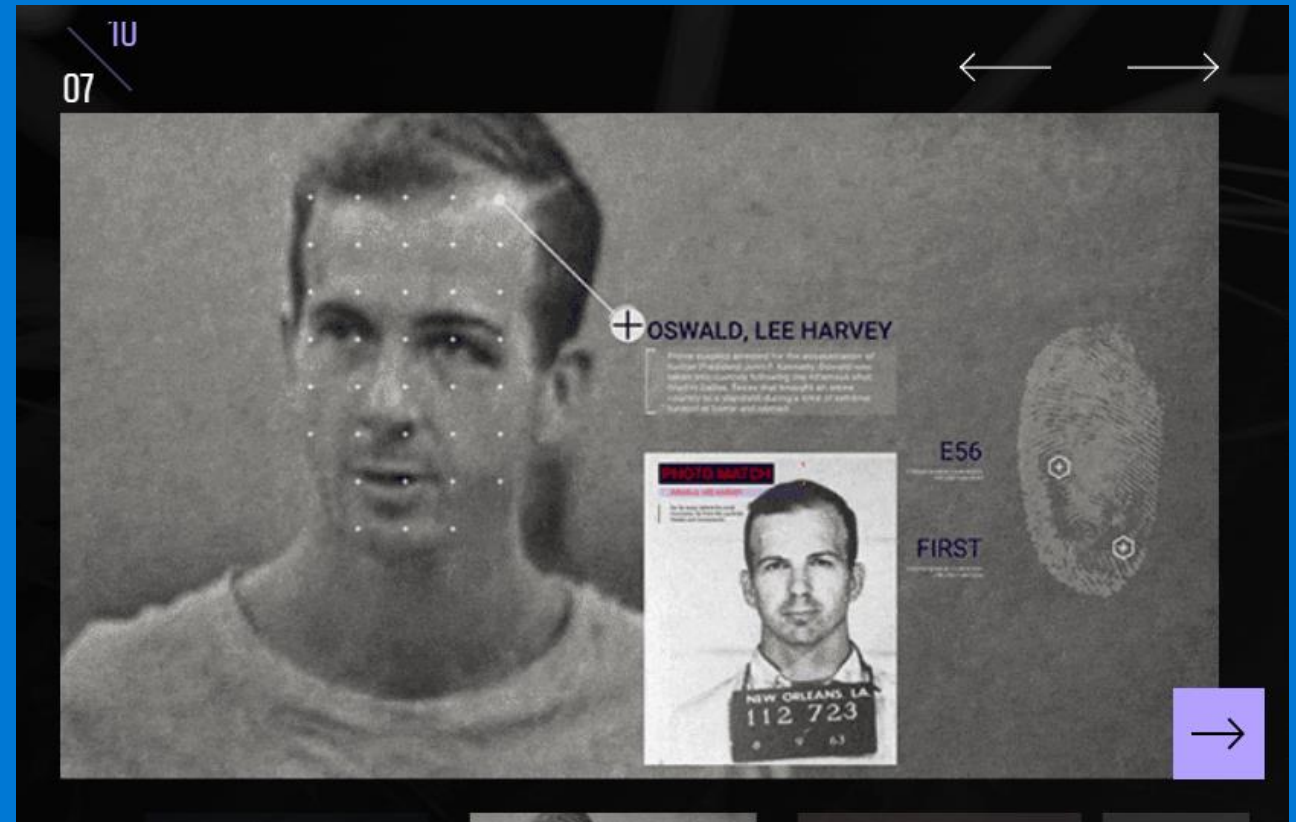
## Fully text-searchable rich index



# Knowledge Mining Demo

<https://jfk-demo.azurewebsites.net/#/>

<http://aka.ms/knowledgemining>





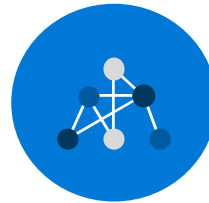
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A decorative border in a light beige or gold color, featuring a complex Art Deco style geometric pattern with lines, triangles, and rectangles, framing the central text.

FRIDAY NIGHT, SQLBITS

PROHIBITION PARTY



# FEEDBACK FORMS

PLEASE FILL OUT AND PASS TO YOUR ROOM  
HELPER BEFORE YOU LEAVE THE SESSION

