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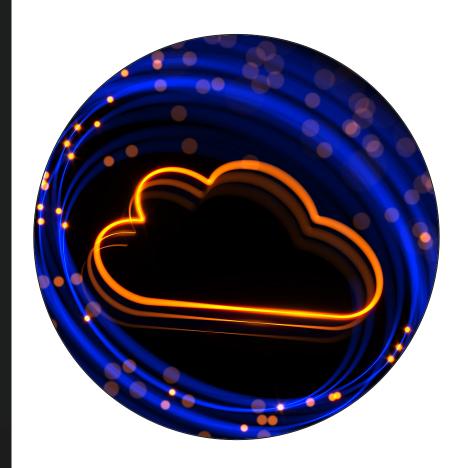




February 21, 2024

# Microsoft Cloud & Al in Action\_

Cross-Industry Use Cases To Enhance Business Outcomes



# Our Speakers\_



Anton Volik

Country Manager, Infopulse Bulgaria



**Maksym Prostakov** 

Sales Manager, Infopulse



**Alex Yochev** 

Application Innovation Lead, Microsoft CEE and MEA, Microsoft

### Who We Are

Providing end-to-end digital services and consulting, Infopulse brings in decades of IT expertise to enable the success of our clients in 30+ countries worldwide.

We align the customers' business objectives with the most suitable technology strategy to drive their smooth journey to digital transformation.

Learn More 7

A Globally Trusted Partner for Digital Transformation

**30 + years** of IT experience

2,000 +

specialists in our company



**TOP 100** 

service provider by IAOP

# Who We Are\_





#### One of the largest

IT Companies in Eastern Europe



#### 30+ years

in the market



#### 2,000+

specialists



#### 60%

of specialists have 6+ years of IT experience



#### 100+ active clients

in 30+ countries worldwide



#### Clients

from SMEs to Fortune 100 companies



#### 78%

of clients – from the EU & the USA



#### 45+ clients

have been working with us for over 5 years





also 2022, 2021, 2020, 2019, 2018



also 2020



Azure Microsoft Expert Partner MSP Microsoft







#### **Certifications**









We focus on quality, security, and technological excellence

Microsoft   Azure Partner   Expert ■ Microsoft   MSP	SAP	<b>A</b> ATLASSIAN	ORACL€   Service Partner	opentext* Partner Services Silver
servicenow.	<b>Ui</b> Path™	resco.net technology on the move	PARTNER Select Tier Services	and others.

# Working Globally with Local Presence in Europe, North and Latin America\_

7 countries of presence.

Delivery and sales centers in 5 countries:

Poland, Germany, Bulgaria, Ukraine, Brazil

#### Europe

Poland

Germany

Bulgaria Ukraine

Netherlands

#### **North America**

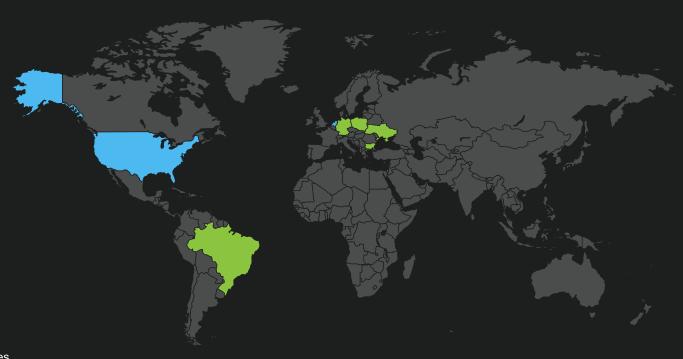
USA

#### **Latin America**

Brazil

- Sales and Delivery





# We are part of Tietoevry\_

The market leader in Digital Services in Norway, Sweden, and Finland

24 000

professionals globally

Serving customers in over

90

countries worldwide

Investments in technology and services more than

**EUR 100** 

mln/year

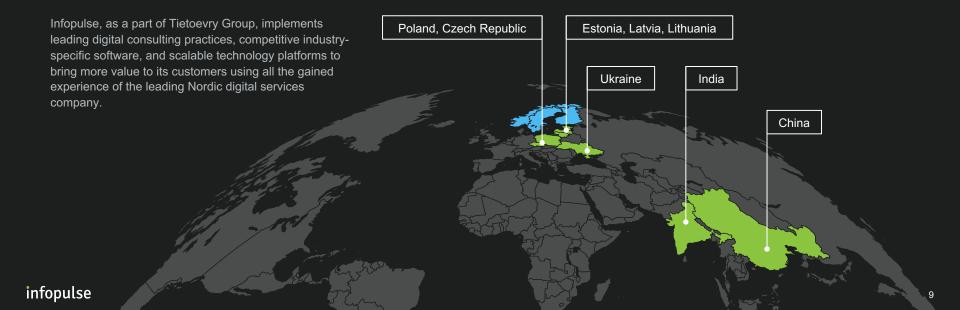
Turnover of approximately

**EUR 3 billion** 

More than

10 000

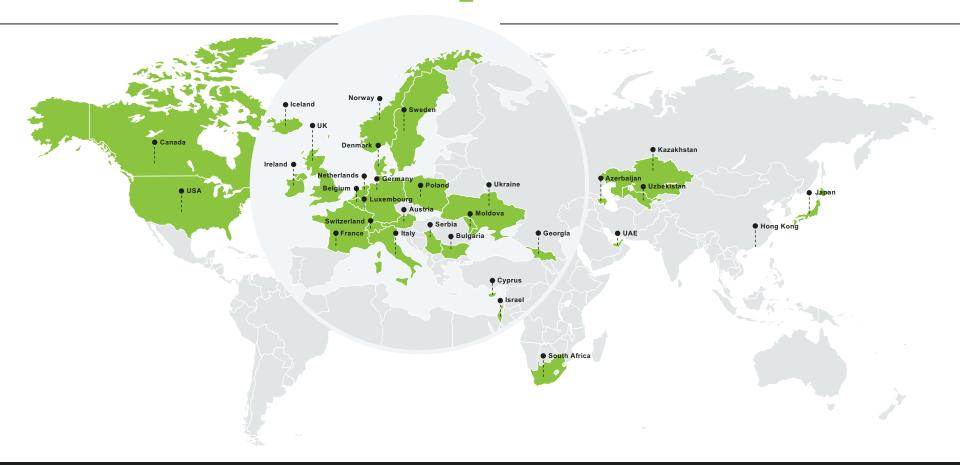
customers



# Our offices in Bulgaria\_



# 100+ active clients from 30+ countries\_



# Success Stories\_

# 20+ Banks in Scandinavia

use our online & mobile banking software

# Digital Transformation Solutions

for a Fortune 500 global agricultural enterprise

# World-Leading Video Surveillance

software developed by our teams since 2008

# Risk Management Solution

for one of the world's top 20 banks

# Enterprise Mobility & BI Solutions

automate the operations of a Fortune 100 company

#### Industrial IoT Platform Development

for a Fortune 500 multinational software corporation

# High-Quality Telecom Services

all around the world assured by our engineers

# Digital Transformation with SAP S/4HANA

of large manufacturing enterprises

# Trusted by Leading Brands













































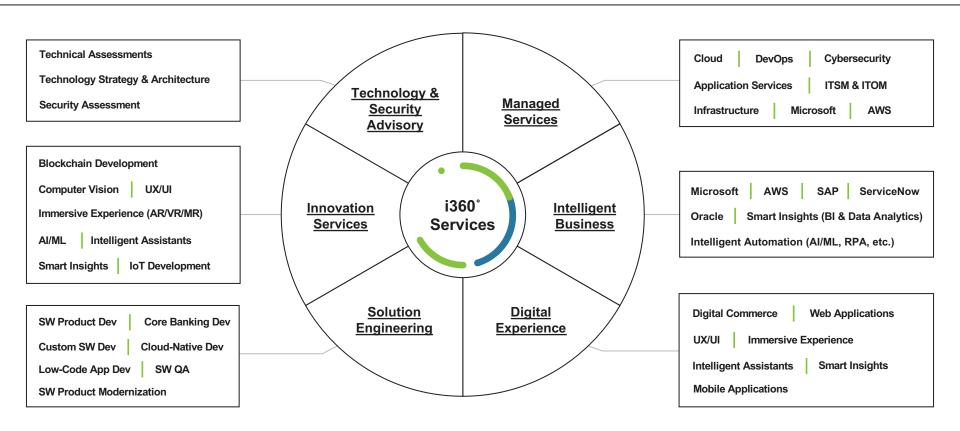




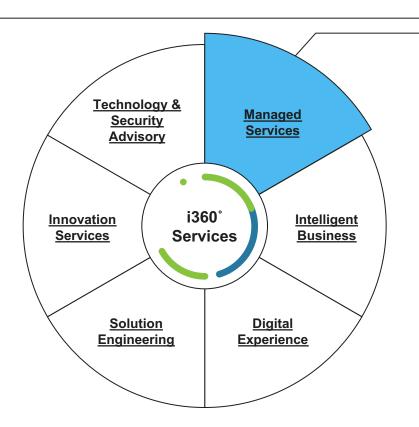
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# Our Services and Solutions\_





Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.



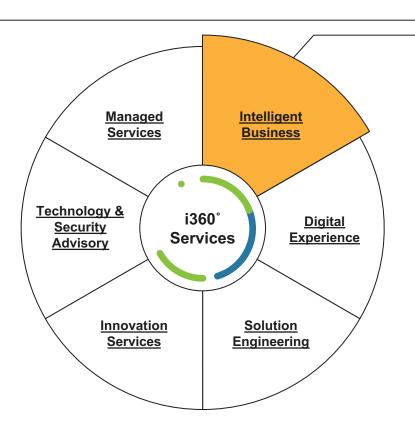
#### **Managed Services**

Adopting a new approach to managing IT ecosystem. Taking a step back from time- and resource-consuming maintenance of complex IT landscape and delegate IT operations to Infopulse – a certified Microsoft and AWS managed service provider. Our seasoned experts cover a full range of services for clients' convenience, from governing cloud environments and establishing DevOps best practices to implementing cutting-edge security solutions.

Cloud DevOps Cybersecurity Infrastructure

Application Services | ITSM & ITOM | Microsoft | AWS

Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.



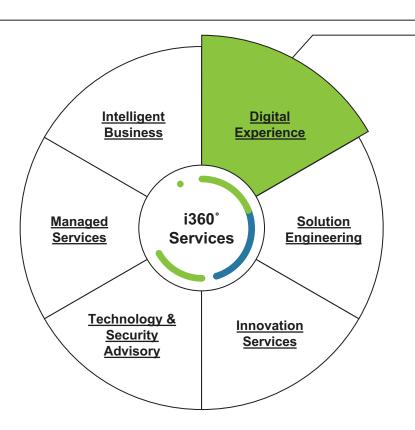
#### **Intelligent Business**

Heading towards digital transformation, many organizations still struggle with the implementation of cost-effective solutions. Infopulse is well-placed to deliver intelligent solutions that result in higher business performance, profitability, agility, flexibility, and a better level of automation. Our broad competency in SAP, Microsoft, Oracle, ServiceNow, AWS technologies, and 30 years of expertise make us a perfect partner for mid or large-scale projects.

Microsoft AWS SAP Oracle ServiceNow
Intelligent Automation (AI/ML, RPA, Computer Vision, etc.)
Smart Insights (BI & Data Analytics)

Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.

18



#### **Digital Experience**

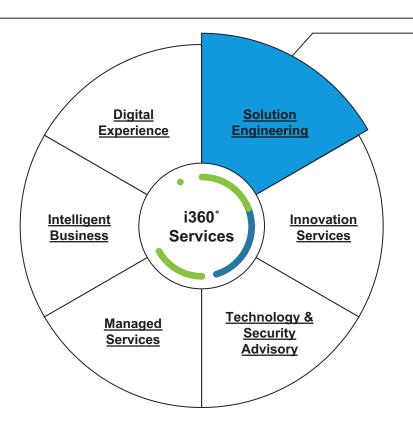
Deliver exceptional value to customers by re-imagining the approach to digital experience. Infopulse provides top-notch solutions and services that facilitate online presence, support omni-channel strategy, and elevate customers' digital journey. Our expertise covers developing web and mobile applications, designing smart and immersive solutions, analyzing customer data for better decision-making – all tailored to fit any business specifics.

Digital Commerce UX/UI Mobile Applications

Web Applications | Immersive Experience (AR/VR/MR)

Intelligent Assistants | Smart Insights

Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.



#### **Solution Engineering**

Evolve your business into an intelligent and resilient enterprise, transform your vision into tomorrow's standard, and foster long-term success with holistic software engineering services from Infopulse. We cover all aspects of SDLC – from ideation to full-scale development, support, or reengineering. Our experts combine unique domain knowledge with DevOps, testing, automation, low-code, and cloud-native approaches to empower you with custom software of unparalleled quality.

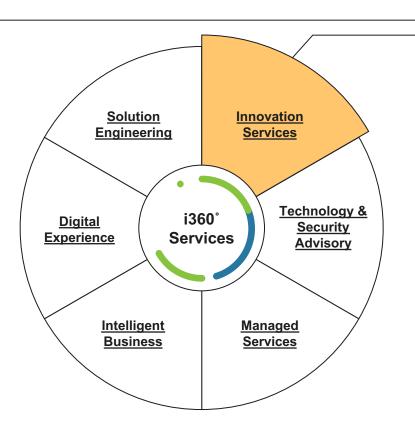
Software Product Development | Software Product Modernization

Custom Software Development | Low-Code App Development

Cloud-Native Development | Software Quality Assurance

Core Banking Development

Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.



#### **Innovation Services**

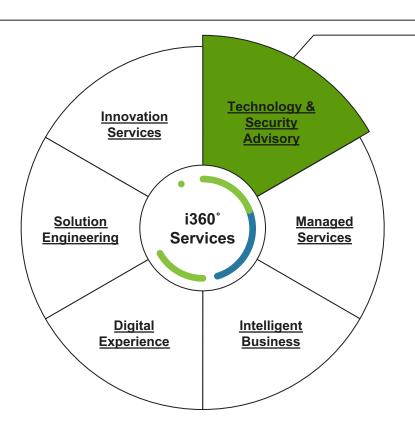
To stay afloat when competition is fierce, doing business old-school is no longer enough. Being relevant demands new ways to run an organization. Adding an edge to enterprise and leaping forward by infusing innovative components into operations and processes. Bringing the benefits of powerful technology to future projects. Combine a time-proof stack with mature approaches and cutting-edge technology advancements to help businesses discover new opportunities, grow, and scale.

Blockchain Development | IoT Development | Al/ML

Computer Vision | Intelligent Assistants | Smart Insights

Immersive Experience (AR/VR/MR) | UX/UI

Infopulse offers i360° Services, end-to-end services to accelerate your digital transformation.



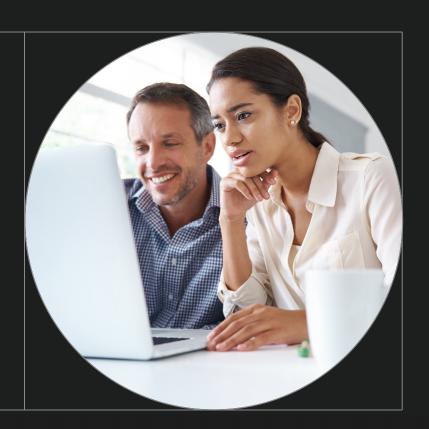
#### **Technology & Security Advisory**

The immense variety of emerging technologies can overwhelm even digital-savvy enterprises that try to keep their positions. Infopulse technology & security advisory services provide a comprehensive view on IT infrastructure and security posture. Our experts can give detailed recommendations on the most suitable approach and solutions to tackle business challenges, helping to create a sustainable technology strategy, secure business, and support digital transformation.

Technical Assessments | Security Assessment
Technology Strategy & Architecture

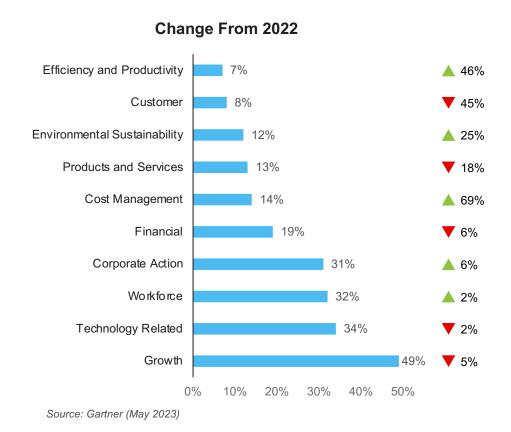
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Al Business
Use Cases



# CEOs' Top Strategic Business Priorities for 2023-2024\_





#### Growth and Technology are the top priority (2024)

More than half of CEOs believe an economic downturn or recession in 2023 will be shallow and short, and the survey showed only a modest rise in cash flow, capital and fundraising concerns."

Despite the impact of these <u>economic headwinds</u>, half of CEOs cited growth as the top strategic business priority for the next two years. Technology also remains a top focus area for CEOs, closely followed by <u>workforce issues</u>.

# **IBM Study:** CEOs Embrace Generative AI as Productivity Jumps to the Top of their Agendas\_

# 50% + 36% = 86% companies are using/ready for Al...

COO/CFO/CTO/CDO/CIO are more involved in business processes digitalization

Half (50%) of CEOs surveyed report they are already integrating generative AI into digital products and services, but more than half (57%) of CEO respondents are concerned about data security and 48% worry about bias or data accuracy

Fewer than one in three CEOs (28%) surveyed have assessed the potential impact of generative AI on their workforces, and **36%** say they plan to do so in the next 12 months

Jun 27, 2023

CEOs are increasingly looking toward operational, technology and data leaders as strategic decision makers

Additional data gathered during the survey indicates the following:

- When asked which C-Suite members will make the most crucial decisions over the next three years, CEO respondents identify COOs (62%) and CFOs (52%).
- The influence of technology leaders on decision making is growing

   38% of surveyed CEOs point to CIOs (up from 19% a year ago),
   followed by Chief Technology or Chief Digital Officer (30%) as making the most crucial decisions in their organization.

# A few trends and perspectives on the role and adoption of Al in finance that will aid CFOs in the long run are listed below\_



#### Improved accuracy and efficiency

Many CFOs see AI as improving the accuracy and efficiency of financial processes. AI tools can analyse large amounts of financial data in a short amount of time, identify patterns and trends, and provide insights that would be difficult or impossible to find using traditional methods. This can help CFOs make more informed decisions and improve financial performance.



#### **Enhanced risk management**

CFOs are also seeing the potential of Al for enhancing risk management. Al tools can help identify potential risks and vulnerabilities and provide real-time alerts and recommendations for mitigating those risks. This can help CFOs proactively manage risks and avoid financial losses.



#### Streamlined reporting and compliance

Al can also help CFOs streamline reporting and compliance processes, which can be time-consuming and resource-intensive. Al tools can automate data collection, analysis, and reporting and ensure that financial reports are accurate and compliant with regulatory requirements.



#### Integration with other systems and technologies

As Al evolves, it is becoming more integrated with other systems and technologies, such as cloud computing, blockchain, and the Internet of Things (IoT). This integration can help CFOs gain a more complete and accurate view of financial data and make better-informed decisions.



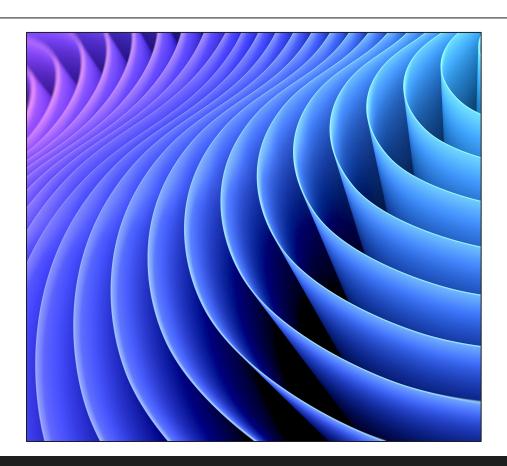
CxOs can explore various Al applications across different business functions:

- **Finance**: Automating repetitive tasks involving quantitative skills.
- Sales and Marketing: Personalizing customer interactions, optimizing pricing, and improving lead generation.
- Supply Chain and Operations: Enhancing demand forecasting, inventory management, and logistics.
- Human Resources: Streamlining recruitment, employee engagement, and talent management.
- Customer Service: Implementing chatbots for efficient support.
- Risk Management: Analyzing data for better decision-making.
- Healthcare: Diagnosing diseases, drug discovery, and patient care.
- Manufacturing: Predictive maintenance and quality control.
- Energy and Utilities: Optimizing resource utilization and grid management.

# **Al Business Use Cases**



- Cloud pricing optimization
- Voice assistants, chatbots, and conversational Al
- Uptime/reliability optimization
- Predictive maintenance
- Customer service operations
- Personalization
- IT operations management
- Process automation
- Financial reporting and accounting
- Recruiting/hiring
- Safety and quality
- Workforce schedule optimization



# Cloud pricing optimization\_

AIRBNB, DROPBOX





Organizations are leaning on AI to help reduce cloud costs and to find cost-effective solutions for running cloud applications. Airbnb is one company using AI to optimize pricing on Cloud Provider, utilizing AI to manage capacity, to build custom cost and usage data tools, and to optimize storage and computing capacity. Dropbox is another company that is using AI to optimize cloud costs and

operational expenditures, reducing its dependency on Cloud Provider and saving nearly \$75 million in the process. Al tools help companies optimize cloud pricing and spending by identifying cloud usage patterns for improved cost prediction, detecting anomalies in cloud usage, identifying opportunities for saving, and uncovering more cost-effective resources to use.

# Voice assistants, chatbots, and conversational Al\_

Estée Lauder, Pentagon Credit Union (PenFed)





Conversational AI tools such as chatbots and voice assistants have grown in popularity, making technology more accessible, offering support to customers, and reducing the load on IT support representatives. At <a href="Estée">Estée</a> <a href="Lauder">Lauder</a>, the company has released a voice-enabled makeup assistant designed to assist visually impaired

people with applying makeup. Meanwhile, companies such as Pentagon Credit Union (PenFed) are using chatbots and conversational AI to help customers get answers to common questions faster, reducing the load on customer service reps.

# **Uptime/reliability optimization\_**

Netflix, Uber, Facebook, Salesforce, AirBnB





For companies that rely on web services or e-commerce, maintaining uptime and website reliability is a top priority. All helps organizations achieve this by constantly scanning systems, networks, and processes for inefficiencies, potential disruptions, and to identify any looming threats in a way humans could never accomplish. Nearly all major organizations are employing Al to support their unique

uptime and reliability needs. Netflix, Uber, Facebook, Salesforce, AirBnB, and many more are implementing AI to monitor, maintain, and keep their services up and running and available for customers. For companies that offer round-the-clock digital services, using AI can help identify problems before they start, while also reducing instances of crashing, hacking, and human error.

# infopulse

Case for Large Pharma Producer

# Azure OpenAl Data Analytics Bot for a Pharma Leader\_

Pharmaceutical Giant Achieves Unprecedented Speed-to-insight with a GenAl-driven Solution

Industry: Pharmaceuticals Location: Ukraine Employees: 1,000+



# Business challenge\_

# Struggling with the growing demand for BI insights, the client searched for a solution that would:



Democratize access to data analytics across the company



Optimize the time, resources, and costs to prepare BI reports



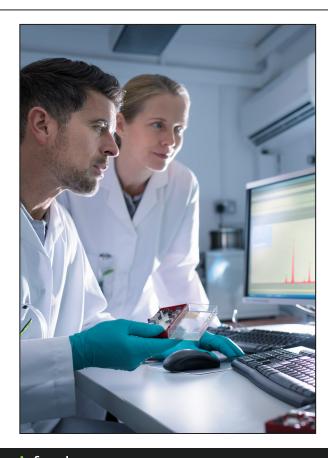
Rapidly address a large pool of internal data analytics requests



Be GenAl-based, as Power Bl Copilot was inefficient cost-wide for the client



#### Solution



Infopulse built a Data Analytics Bot based on the RAG framework and Azure OpenAl service, which:



Processes prompts, creates an Excel file with the findings, and summarizes the info



Visualizes the insights in various forms upon request



Supports multiple languages and tailors the response accordingly



Can be deployed as a chatbot in Microsoft Teams, Slack, or other apps

#### **Technologies**



Azure OpenAl

#### **Business value**

#### Smart GenAl assistant that brings the following benefits to the client:



**Speed-to-insight** –analytics delivery was reduced from weeks to seconds



Optimized time for the analytics team



**Reduced costs** for creating BI reports



**Democratized analytics** – users don't need Power BI/SQL skills



**Reinforced security** – customer data is not used for model training



The Bot can be extended with **voice** commands

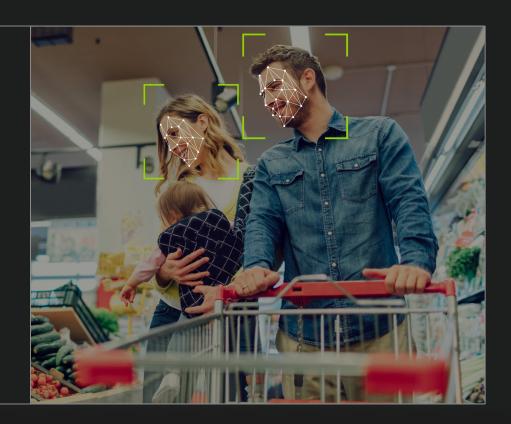
# infopulse

Case for a Retail Company

# A Custom Computer Vision Solution for a Retail Company\_

Reduced maintenance costs and enhanced customer experience with intelligent human activity recognition

Industry: Retail & E-Commerce Location: Asia Employees: 100 000+



# Client background\_



Our client is one of the largest retailers, shopping mall developers, and operators in Asia. They have a retail network comprising around 300 consolidated subsidiaries, ranging from convenience stores and supermarkets to shopping malls and specialty stores.

#### **Project Facts**





Team size: 6 FTEs

**Duration:** 12 months

## Business challenge\_

#### Provide holistic data to enable data-driven decision making:



Set up a surveillance system in a large two-story supermarket with a 2,000 m<sup>2</sup> area



Enhance the store security with human activity recognition to detect criminals



Collect and analyze in-store customer behavior data to adjust the company's marketing



Customer flow and heatmap data for better energy optimization



Ensure human recognition in the context of COVID-19 preventive measures



## Solution

#### A custom computer vision solution for intelligent customer behavior analytics:



Configured and calibrated 50+ cameras



Enabled face recognition, person identification, and age/gender detection



Customized the data science models with real-life data



Gathered the number of people and movement tracking data



Provided data visualization, including people tracking graph and store heatmap



Ensured secure on-premises data storage

#### **Technologies**



TensorFlow



Keras



OpenCV



Python3



Kafka



**TimeScaleDB** 



RabbitMQ



Redis and others

## **Business value**

#### Advanced surveillance system powered by artificial intelligence:



Real-time movement tracking and continuous analysis with 50+ cameras



Lowered energy costs by optimizing customer flow and adjusting power consumption



Data-driven marketing, better CX and optimized store layout based on customer flow analysis



Enhanced store security with accurate facial recognition of habitual criminals

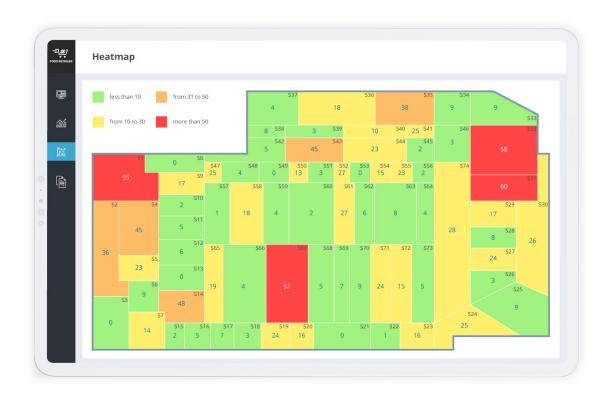


Precise CV models: 95% for people counting; 72% for movement tracking; 89% for age/gender detection; 91% for heatmap

## **User Interface – People Tracking**



## **User Interface – Heatmap\_**



## User Interface – Dashboard



Case for **Infopulse Solution** 

## Infopulse Mask Wearing Detection Solution\_

Implementing Computer Vision for Premises Safety

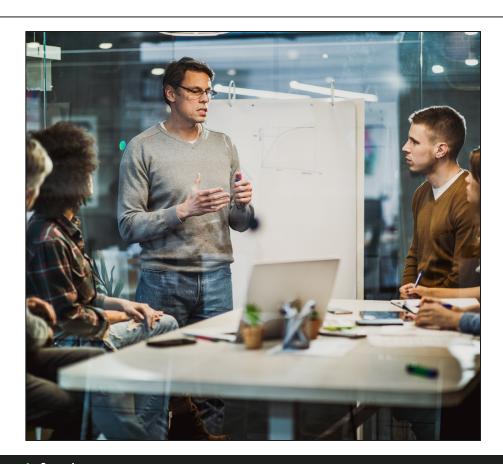
Industry: Software & Hi-Tech

Location: Ukraine

Employees: 2,300+



## Business challenge\_



Infopulse Mask Wearing Detection solution is designed to ensure strict adherence to safety measures meant to control/prevent the COVID-19 virus spread. Powered by Al and Computer Vision, the solution monitors mask usage. In the case of mask absence or when it is worn improperly, the solution sends notifications to the responsible staff to increase health awareness and minimize risks.

Case for an Oil & Gas operator

# Anomaly Detection with 93% Accuracy Reduces Turbine Failure Probability\_

Infopulse enables efficient gas turbine monitoring with digital twin technology, advanced analytics, and multivariate anomaly detection

Industry: Energy, Oil & Gas Location: Germany Employees: 2,300+



## Client background\_



An international industrial SaaS leader provides software products focused on contextualizing OT/IT data using such technologies as AI/ML, Big Data, and 3D modeling. Serving oil and gas, utilities, energy, manufacturing, and other industries, the company helps its customers to operationalize data received from sensors, turning them into helpful insights.

#### **Project Facts**





Team size: 3-5 FTEs, Du

**Duration:** 6 months

## Business challenge\_

Our client, a SaaS software company, partnered with Infopulse to help an Oil & Gas operator:

Detect anomalies in the operation of gas turbines

03

Enable real-time data analytics of 250+ IoT sensors

 $\mathbb{J}^{2}$ 

Prevent costly unplanned shutdowns (\$400,000+ per each)

04

Replace inefficient monitoring tools



## Solution

#### Infopulse delivered a cost-effective solution with high-value services:



Used DataOps SaaS platform and a Digital Twin of the gas turbine



Enabled anomaly detection and real-time data analysis for 250+ sensors



Prepared a training dataset for an ML model (100 shutdown samples)



Built a decision tree for the root cause analysis of detected anomalies



Implemented data analysis after planned turbine shutdown

#### **Technologies**



Cognite Data Fusion



Google Cloud



**Databricks** 



TensorFlow



Power BI



Microsoft Azure

## **Business value**



Ability to detect gas turbine anomalies with 93% accuracy



Reduced turbine failure probability with early detection of outliers



**Better monitoring efficiency** with real-time and post-planned shutdown analysis



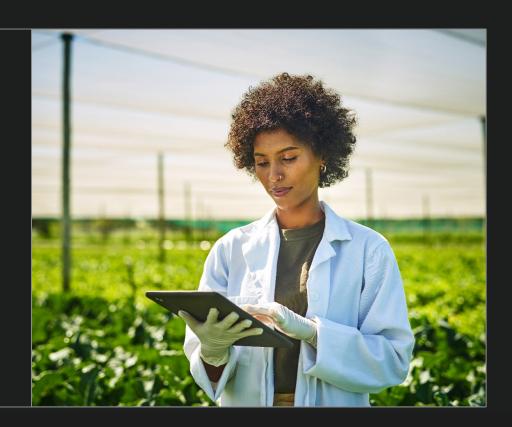
**Optimized data processing** and faster time-to-insight with a single platform

Case for **Leading Agro-holding** 

# 80-90% Sales Forecasting Accuracy for a Leading Agro Producer\_

Machine Learning-based sales forecasting solution to optimize production planning, warehouse management and logistics

Industry: Agriculture Location: Ukraine Employees: 26,000+



## Business challenge

Our client needed a Machine Learning-based sales forecasting solution that would:



for the customers

Precisely predict the sales volumes



Improve the logistics operating quality



Optimize the production planning by regions



Improve stock management



## Technology\_



Infopulse built a solution that makes forecasts for 2 months ahead for each product in the retail chain:



Weekly forecasting: up to 90% accuracy for 4 of 28 cases, and 80-89% for other 24 cases



Monthly forecasting: up to 90% accuracy for 19 of 28 cases, and 80-89% for other 9 cases

#### **Technologies**



**Python** 



Power BI



LightGBM



**VS Code** 



Azure Mi

XGBoost

XGBoost and others



Jupyter

## **Business value**

#### The sales forecasting solution helps our client with:



No over/underproduction & minimized stockout risks



Minimized warehouse waste, storage, and remainders



Faster forecasts with better accuracy: minutes instead of days



Improved service: timely delivery of product volumes



Streamlining logistics & sales by optimizing production volumes



Efficient use of capital & higher profits due to reduced waste

64

Case for Non-profit e-procurement organization

## Develop chatbot to assist business users\_

Digital assistant that instantly connects country's largest oil and gas companies and thousands of qualifying suppliers

Industry: Energy, Oil & Gas Location: EU Employees: 50+



## Client background\_



Our client is a EU-based company that connects large oil and gas companies with thousands of suppliers. With its help, oil and gas companies can get relevant information about the suppliers through a modern e-procurement system.

#### **Project Facts**





Team size: 5+ FTEs

**Duration:** ongoing since 2018

## Business challenge\_

#### Develop chatbot to assist business users & improve related processes:



Over-the-phone support operated during business hours only



Delayed contract fulfillment that resulted in EUR millions of losses/month



End users required 24/7/365 guidance across procurement stages



## Solution

#### A truly intelligent Al assistant:

01

Based on a cutting-edge NLP platform

02

Advanced semantic analysis

03

Deployed on-premises for extra security

04

Can be deployed in the cloud

)5

Simplified Q&A upload

06

Improved UX of content update for timely answers

#### **Technologies**



Universal semantic encoder



Open-source and proprietary libraries

## **Business value**

#### 24/7/365 consulting with instant & relevant answers to user requests:



Automates handling of up to 75% of user requests



10x times more effective content composition – 1 question per 1 answer



Sped up all procurement stages, making it more effective and accurate



Multilanguage support (100+ languages)



Improved overall user journey

Case for a Leading Convention Center

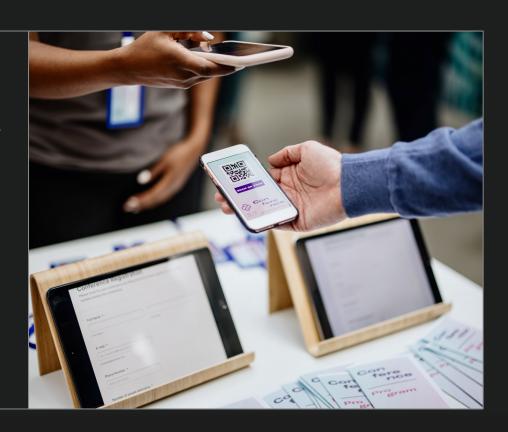
# Improving Interactions & Efficiency at Major Exhibitions Through Tailored Al Chatbot Solutions

Implementing Azure OpenAl-driven Chatbots to Enhance Exhibition Experiences for a Leading Convention Center

Industry: Public sector

Location: Germany

Employees: 200+



## Business challenge\_



Seeking a technology-driven solution for a time-sensitive project, the client approached Infopulse through our partner Cloud Value — a German IT services and consulting company. The goal was to enhance visitor experiences at exhibitions and events hosted at their facility. The specific request was to develop chatbots to partly handle coordination and information functions traditionally managed by reception workers. The project had to be completed as quickly as possible, with a tight deadline of just 1.5 months. This urgency was driven by the need to have functional chatbots ready for specific exhibition opening dates.

The initial concept of incorporating chatbots was introduced by Cloud Value, with Infopulse contributing to technology and project approach suggestions. The client specified the use of the Microsoft stack, emphasizing the inclusion of a voice interface.

In response, we crafted a comprehensive presentation that not only outlined the specific needs of the client but also advocated for the adoption of Azure OpenAI as the preferred approach. This strategic recommendation was rooted in Infopulse's expertise, ensuring the delivery of a customized solution tailored to meet the client's unique needs and objectives.

## **Solution**

Infopulse developed and deployed 8 Al chatbots, each tailored for a specific exhibition at the convention center. The chatbots seamlessly provided the requested information relevant to the respective exhibitions. As a result, Al chatbots successfully managed 90% of visitors' information requests during the exhibitions.

Infopulse's development approach led to outstanding automation outcomes. During the exhibition period (23-28.11), **the delivered Azure OpenAl-based chatbots demonstrated the following results:** 

- 5,190 engagements with the chatbots
- 444 chat contacts requested to chat with an agent
- 113 visitors filled out the contact form, requesting further assistance



### **Business value**



Consequently, the client received the following benefits:

Speed: Integrating Azure OpenAl-driven chatbots into the exhibition experience significantly reduced wait times for visitors. The average chatbot interaction lasted around 3 minutes, offering a quicker alternative to seeking help from administrators in person, which often involves waiting in queues and searching for a proper specialist.

Cost savings: The GenAl chatbots streamlined call center operations and visitor-informing tasks for employees, limiting their involvement to just 10% of information-related work. This led to decreased costs for exhibition organizers. Overall, the implementation of the custom chatbots translated into saving 270+ man-hours for the client's employees.

Efficiency: The chatbots optimized operational workflows at the convention center by reducing queues and providing visitors with more time to explore exhibitions. Through the utilization of AI chatbots for routine queries, human assistance was reserved for emergencies and unique inquiries, which enhanced resource allocation for the client.

Usability: The use of chatbots resulted in improved navigation and information retrieval for exhibition visitors. Moreover, the chatbots extended their functionality to exhibitors, facilitating their application submissions. This approach accelerated application processing by categorizing and managing visitor and exhibitor requests, eliminating the need for employees to sort out the queries.

Flexibility: The solution allows for smooth reconfiguration of the Al chatbots for the upcoming exhibitions held at the convention center, so there is no need to create new ones from scratch for new events. Now exhibition organizers can swiftly adjust to the evolving exhibition requirements and visitor demands while still providing guests with a personalized experience.

Accessibility: Azure OpenAl-based chatbots, available via phone and on exhibition websites, improve convenience for visitors through instant access to information and assistance.

## **Technology**

Infopulse developed 8 AI chatbots using Microsoft Copilot Studio, a low-code conversational AI solution. The delivered chatbots were integrated with **Dynamics 365 Customer Service Omnichannel**, ensuring a unified communication channel for voice, email, chat, and chatbots. During the project, this integration presented a challenge, as documented methods proved ineffective. However, Infopulse devised a unique workaround that allowed us to successfully address the integration challenges.

The delivered chatbots harnessed the capabilities of **Azure Al Search**, leveraging its robust features to index the content of exhibition websites. This process was enhanced by incorporating the **retrieval augmented generation (RAG) concept**. This Al framework involves a dual-step approach: at first a custom Python-based bot indexes the website content and adds it to the Azure Al Search. Consequently, the RAG model is used to analyze the user's text-based prompts, retrieve the pertinent information from the web pages, and deliver a concise and user-friendly response via Azure OpenAl. The exhibition chatbots offer multilingual support, leveraging the language-agnostic capabilities of **Azure OpenAl GPT**.

#### **Technologies**





**Azure Al Search** 



**Dynamics 365 Customer Service** 



**Azure Functions** 



**Dynamics 365 Omnichannel** 



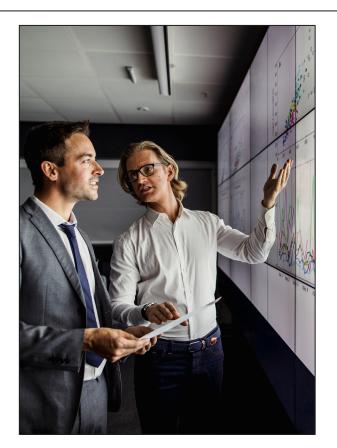
Azure OpenAl



**Power Automate** 



**Azure Storage Account** 



## **Useful links from Microsoft**

#### Sample applications and code demos:

https://github.com/Azure/Build-Modern-Al-Apps

#### **Azure Al Fundamentals:**

#### **Azure Al Fundamentals:**

https://learn.microsoft.com/enus/training/modules/fundamentals-generative-ai/

#### Azure Al School:

https://microsoft.com/en-us/ai

#### Al and CoPilot Tools:

<u>Azure Al Studio - Generative Al Development Hub</u> | Microsoft Azure

Microsoft Copilot Studio | Extend Copilots or Create Your Own

#### Al technical intro read list:

#### [Retrieval Augmented Generation]

https://learn.microsoft.com/en-us/azure/search/retrieval-augmented-generation-overview

#### [What are Tokens?]

https://learn.microsoft.com/en-us/semantic-kernel/prompts/

## [Understand embeddings in Azure OpenAl Service]

https://learn.microsoft.com/en-us/azure/aiservices/openai/concepts/understand-embeddings

## [Learn how to generate embeddings with Azure OpenAl]

https://learn.microsoft.com/en-us/azure/aiservices/openai/how-to/embeddings?tabs=console

## [Create and use embeddings for search queries and documents]

https://learn.microsoft.com/en-us/azure/ search/vector-search-how-to-generateembeddings

#### [What's vector search in Cognitive Search?]

https://learn.microsoft.com/en-us/azure/ search/vector-search-overview#vector-searchconcepts

#### [What is a vector database?]

https://learn.microsoft.com/en-us/semantickernel/memories/vector-db?source= recommendations

#### [What is Semantic Kernel?]

https://learn.microsoft.com/en-us/semantickernel/overview/

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## Thank you for your attention!

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