

**TAVANT**

# **ACCELERATING INNOVATION FOR A FOOD & AGRIBUSINESS COMPANY**

*How Tavant Transformed  
Operations for a Global Food and  
Agriculture Leader*





## THE CLIENT AND THE CHALLENGE

A global leader in the food and agriculture industry sought to enhance efficiency through AI and automation. Their oil palm black bunch detection process was labor-intensive, prone to inaccuracies, and difficult to scale. Customer support faced delays due to inefficient email classification, affecting ticket assignments. Yield forecasting for oil palm fruit lacked precision, impacting supply chain decisions. Additionally, manual invoice data extraction was slow and error-prone, while business analysts spent excessive time creating Functional Design Documents (FDDs), limiting their ability to focus on strategic initiatives. The client needed AI-driven solutions to optimize these critical operations.

## THE SOLUTION

Tavant implemented AI-powered automation solutions to enhance efficiency, accuracy, and scalability across key agricultural and operational processes. By leveraging advanced computer vision, machine learning, and AI-driven automation, the client significantly reduced manual effort, improved forecasting, and streamlined customer support and financial operations.

## THE IMPACT

Tavant's AI-driven solutions transformed the client's agricultural and operational workflows, significantly improving efficiency, accuracy, and scalability. Automated processes reduced costs and minimized manual effort across key functions, boosting overall productivity. More accurate yield forecasting enhanced labor and logistics planning, while AI-driven email classification and invoice processing reduced errors and delays. The scalable, secure solutions seamlessly integrated into the client's infrastructure, leveraging Microsoft Azure to ensure robust security and future-ready innovation.







## **AI-POWERED OIL PALM DETECTION**

Automated fruit bunch counting using drone-captured 360-degree video footage with Instance Segmentation and Multi-Object Tracking models, improving accuracy and processing speed.

## **AUTOMATED EMAIL CLASSIFICATION**

Integrated Microsoft Power Automate and Outlook Adaptive Cards to categorize and route emails instantly, optimizing customer support workflows.

## **ENHANCED YIELD FORECASTING**

Developed a machine learning model leveraging Computer Vision to analyze drone imagery, enabling more accurate predictions for labor and logistics planning.

## **AI-DRIVEN INVOICE PROCESSING**

Implemented an AI-powered system using OpenAI's GPT-4 to extract key invoice data, cutting processing time and improving accuracy.

## **AUTOMATED FDD CREATION**

Leveraged GPT-4 to generate Functional Design Documents in just 30 minutes instead of days, allowing business analysts to focus on high-value tasks.

