

# SMART HYPERSPECTRAL INSPECTION MACHINES FOR THE FOOD INDUSTRY

Advanced Machine Vision for Product Quality Inspection



"By combining hyperspectral imaging with Deep Learning, our vision systems achieve a new standard in automated food quality inspection and production reliability."

Nil Palau, General Manager (IFS Vision Solutions)

## 01. THE SITUATION

Food processors require reliable and automated inspection systems capable of ensuring product quality, food safety, and process efficiency in high-speed production environments.

Increasing quality standards and stricter food safety regulations demand advanced inspection technologies beyond conventional RGB vision systems.



## 02. THE CHALLENGE

Many food products present complex internal and external characteristics that are difficult to detect using traditional machine vision.

Contaminants, foreign materials, product composition variations, fat content, moisture levels, and quality defects require advanced spectral analysis and intelligent classification capabilities.

## 03. THE SOLUTION

- ◆ Hyperspectral Imaging technology by HySpex & Breeze Runtime by Prediktera
- ◆ Deep Learning-based inspection and classification algorithms by IFS Vision Solutions
- ◆ Real-time automated food inspection and sorting systems for industrial production lines
- ◆ Advanced spectral analysis for:
  - contamination detection
  - product classification
  - quality grading
  - composition analysis
  - foreign material detection

The solution is fully scalable and adaptable to multiple food applications and production environments.

