Rice grain recognition for quality analysis using KNIME

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Summary

1. Image processing for rice grain quality control
2. Classifiers development for results improvement based on input image features
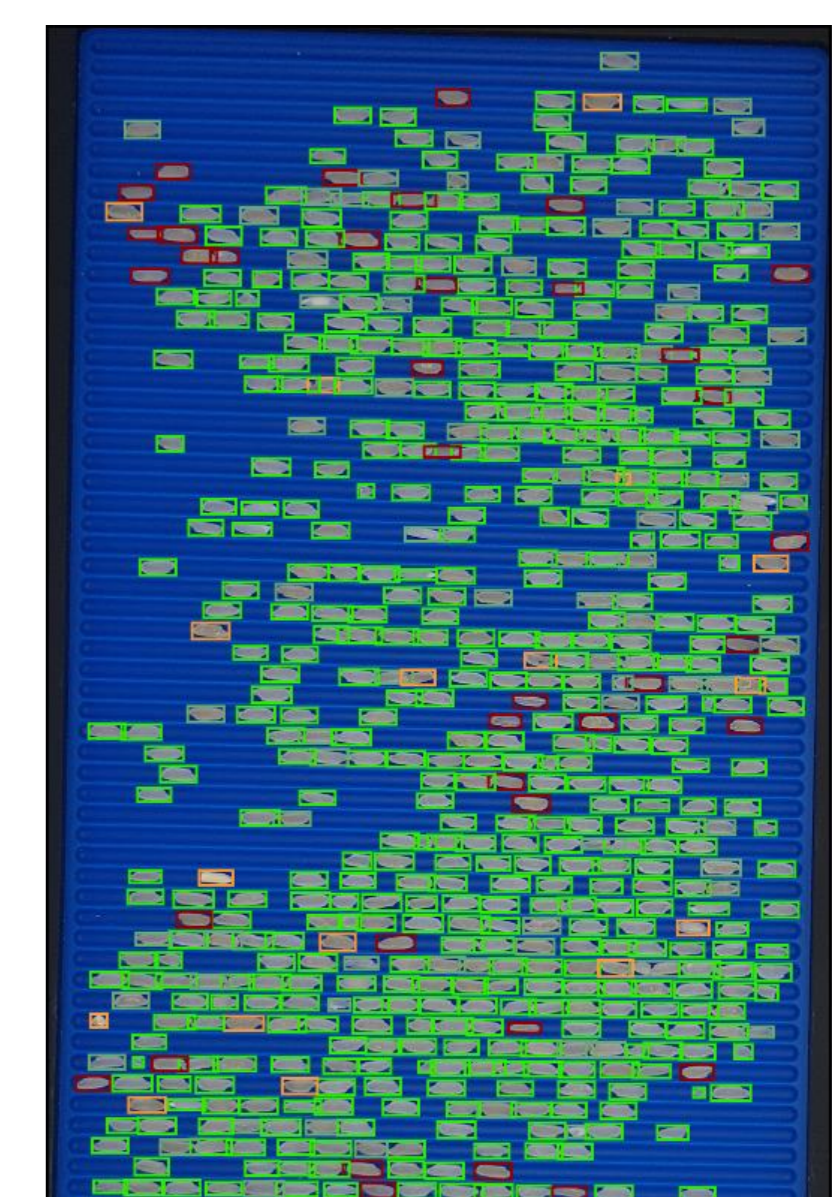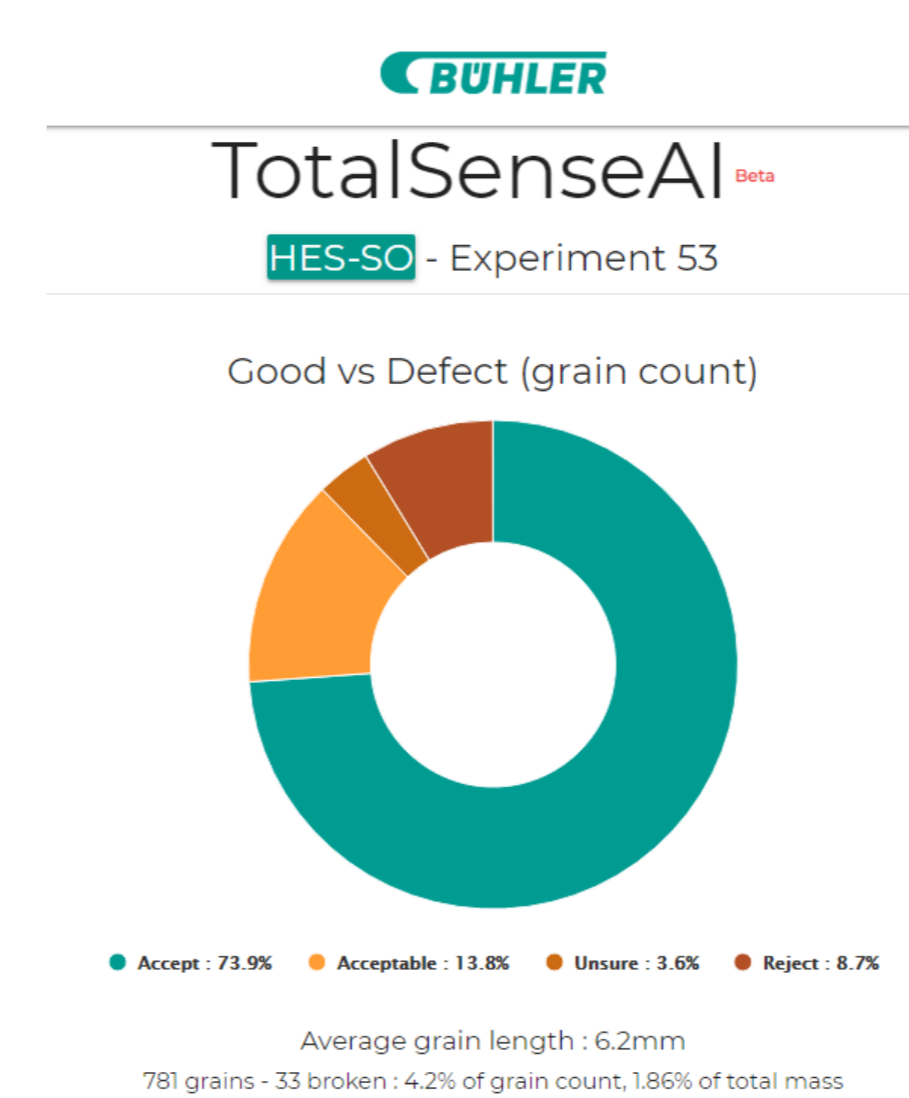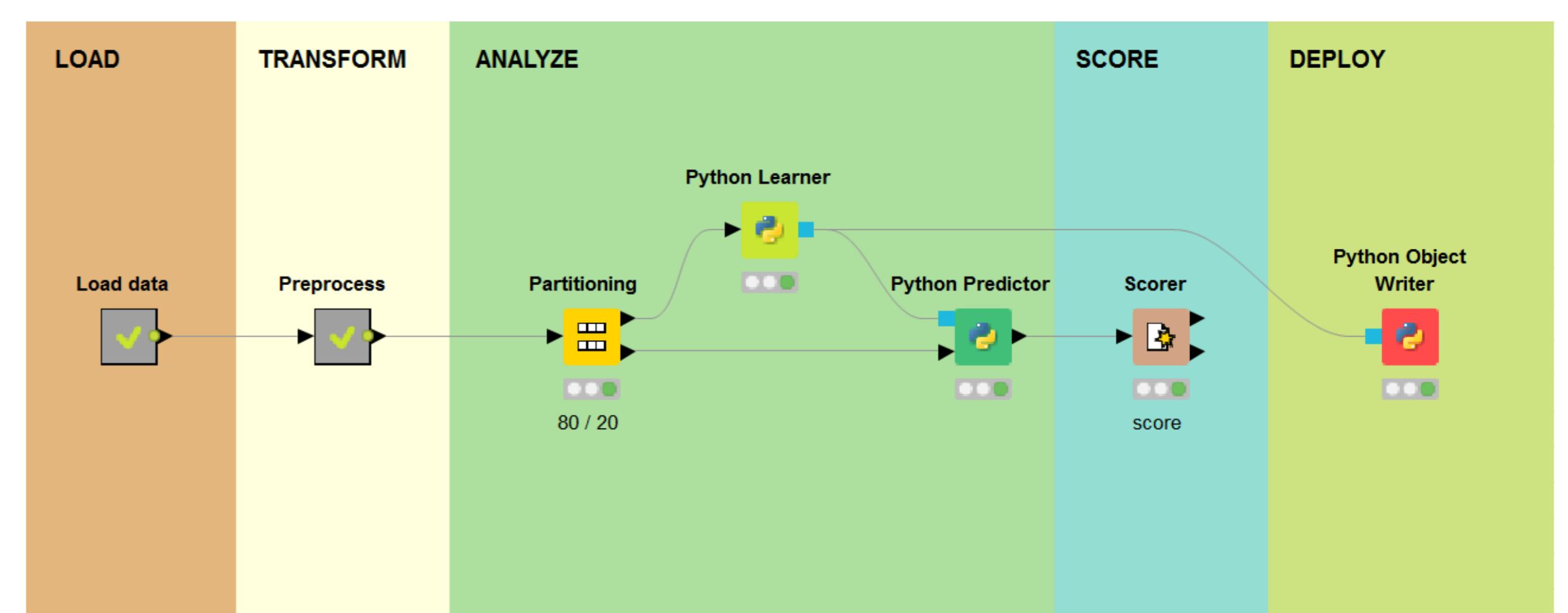3. Process industrialization using KNIME

Introduction

- Market growth of **1.1%** per year
- **570 million** metric tons in 2050
- Sorting and cleaning process
  - Color
  - Broken
  - Other materials (sand, rocks, glass, …)
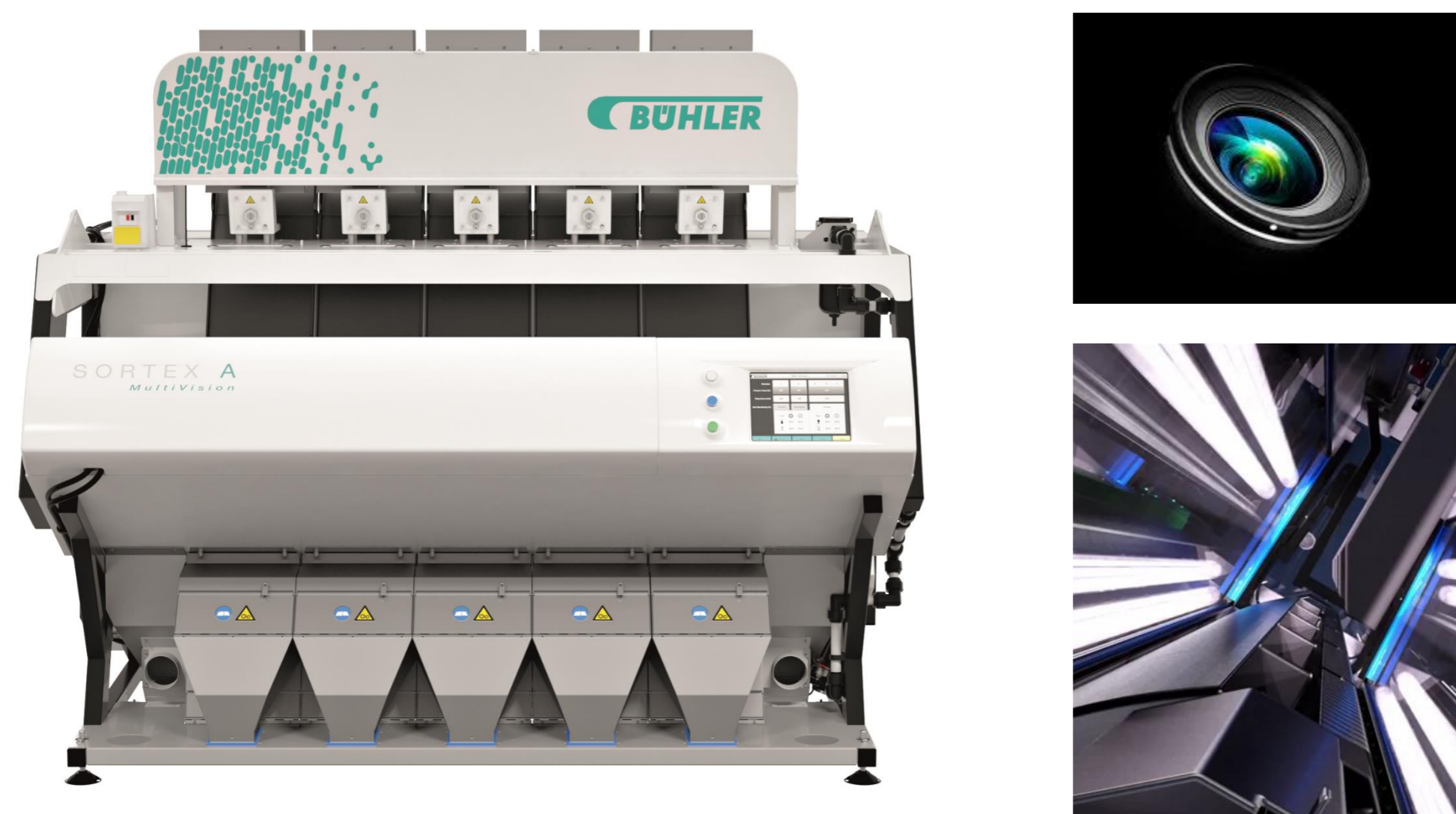
- **SORTEX**
  - Optical Sorter
  - Rice quality sorter
  - **20** metric tons of rice per hour
  - Manual quality control

Results

- **Project issues**
  - Dataset acquisition
  - Output classes size
- **Project improvement**
  - New categories acquisition

Methods

			Algorithm output	
			Good	Defect
Sample	Good		TP	FN
	Defect		FP	TN