

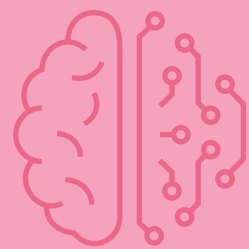


About LUCAi™

Right product, right pack, season after season.

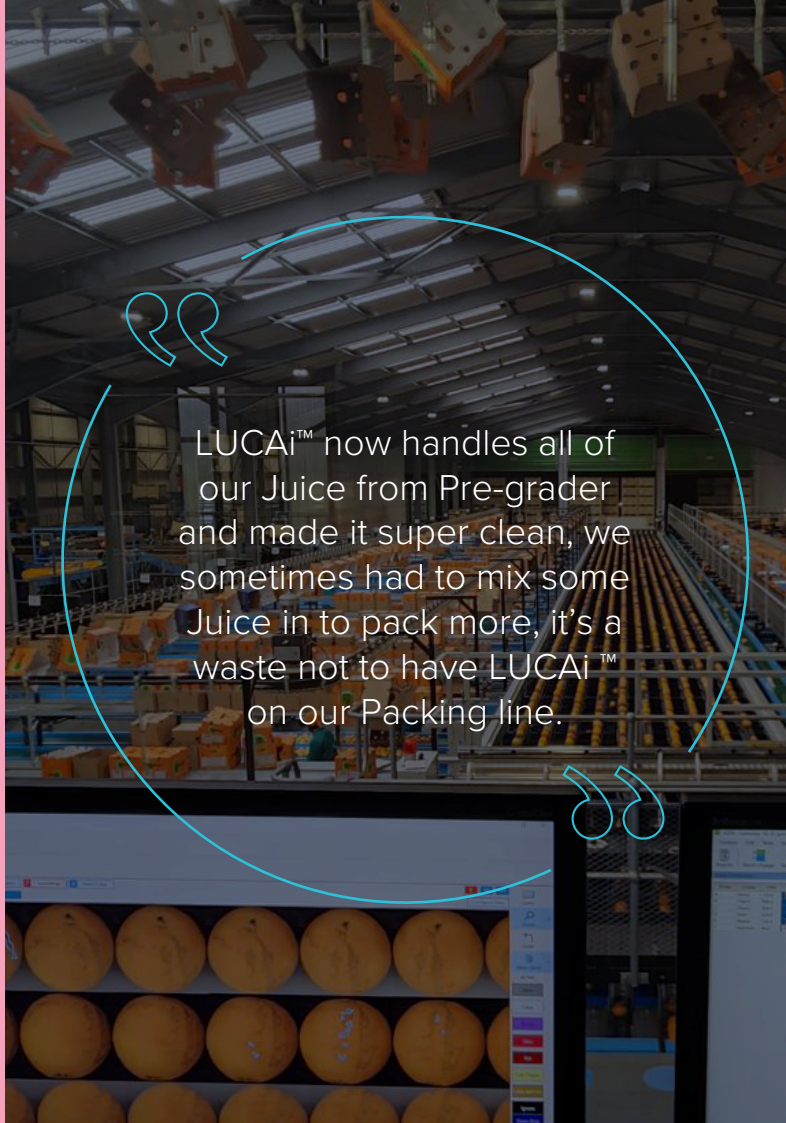
LUCAi™ is a pre-trained deep learning algorithm that classifies the entire piece of fruit. Trained on 20 seasons of in-house citrus images, LUCAi™ arrives at your packhouse knowing what defects to look for, how to find them, and the most appropriate classification. The result is simplicity for operators during set up and operation while also achieving the highest possible performance and accuracy.

Launched as the world's first deep learning product for fruit sorting in 2018, LUCAi™ began by providing precision classification for blueberries. With over 3.300 lanes sold, LUCAi™'s applications now include apples, blueberries, cherries, and citrus. New applications arrive every year.



Benefits

- Reduce operator training from days to hours
- Achieve consistency batch-to-batch and shift-to-shift
- Reduce good-in-bad and bad-in-good



LUCAi™ now handles all of our Juice from Pre-grader and made it super clean, we sometimes had to mix some Juice in to pack more, it's a waste not to have LUCAi™ on our Packing line.



Interested in a free demonstration with your own product or require more information?

Please contact us directly. www.tomra.com/food



#0325



Spectrim with LUCAi™

Intelligent optical sorting & grading platform
Now for mandarins, oranges, & lemons

Correctly classify difficult defects like rot, clipper cut, long stem, and sunburn to maximize your crop yields and minimize fruit loss.



TOMRA Spectrim with LUCAi™

Spectrim with LUCAi™ is a deep learning-powered optical grading platform that removes >99% of many hard-to-detect citrus defects for mandarins, oranges, and lemons.

→ **High performance hardware**

Designed for up to 3 wavelengths and featuring 9 cameras per lane, Spectrim's hardware specifically targets general defects, rind disorders, scarring, and punctures.

→ **Advanced deep learning**

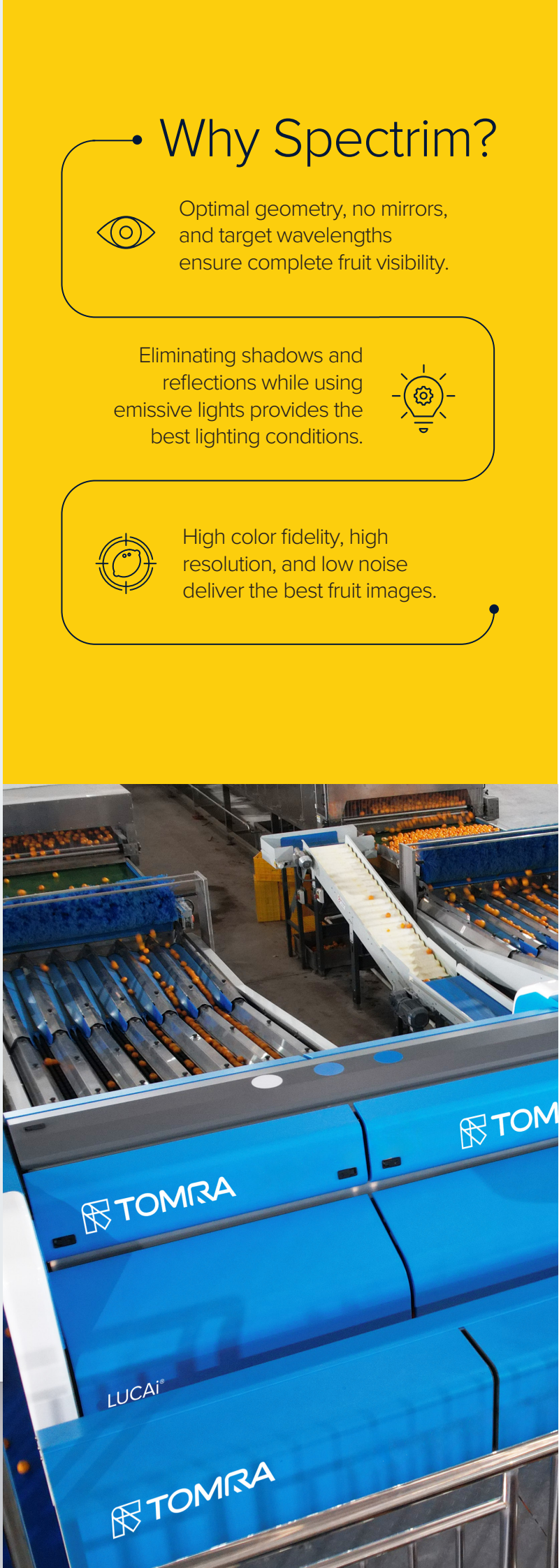
LUCAi™ processes up to 40,000 images per second to assign a unique severity rating for classifications. Having learned from 20 seasons of in-house fruit images, LUCAi™ uses extremely fine differentiation to surpass both existing sorting capabilities.

→ **Simplicity and exceptional performance in one**

A simple user interface is all that's needed to maintain consistent performance. The combination of increased accuracy and smarter decisions mean the machine requires minimal operator input, so fewer controls to manage.

Who is it for?

Suitable for high-speed operations sorting mandarins, oranges, and lemons.



Why Spectrim?



Optimal geometry, no mirrors, and target wavelengths ensure complete fruit visibility.

Eliminating shadows and reflections while using emissive lights provides the best lighting conditions.



High color fidelity, high resolution, and low noise deliver the best fruit images.

LUCAi™ can achieve **99%+** detection across a wide range of citrus varieties and defects

Spectrim with LUCAi™



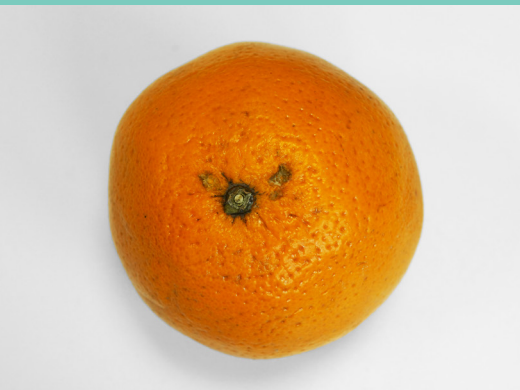
Clipper Cut Detection

Represents a 40% improvement over traditional mapping



Clear Rot

Represents a 20% improvement over traditional mapping



Physical Damage

Represents a 30% improvement over traditional mapping

Spectrim with LUCAi™

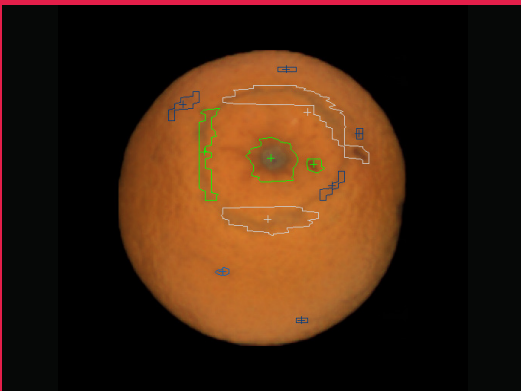


Thrip

Represents a performance of 3x compared to traditional models. Plus, it prevents unnecessary reprocessing by recycling doubles without generating false positives

VS

Traditional mapping



Thrip

Incorrectly classified as Clipper Cut

As well as >99% detection on rot, thrip, clipper cut and sunbrun, LUCAi™ has very high detection rates on the following defects:

- | | | |
|-----------|-----------------|--------------|
| ☑ Oleo | ☑ Misshapen | ☑ Crease |
| ☑ Katydid | ☑ RBD & Pre-Rot | ☑ Sooty mold |
| ☑ Scale | | |

Spectrim with LUCAi™ for your line

TOMRA 5S Advanced

For high throughput packhouses where food hygiene and trust are essential.

Works with Spectrim with LUCAi™ to manage highly configurable operations with high throughput.

- Multi-lane sorter
- Cross belts to sort more grades
- Food trust design with stainless steel or food safe polymer and easy cleaning

Existing Line

Compatible with many existing competitor sorting lines.

Contact sales.food@tomra.com to discuss your requirements.

TOMRA Single Lane Sorter / Dual Lane Sorter

For small-medium packhouses sorting between 2 to 8 metric tonnes per hour.

Works together with Spectrim with LUCAi™ to pack variety of packaging types and respond to market demands.

- Single or dual lane sorter
- Highly accurate weighing system
- Gentle transportation
- Dual side tipping for reducing system length and footprint

