

# BRAND PROTECTION, CONSISTENT QUALITY

While responding to highly competitive market situations and balancing the costs you're also committed to meet pre-set quality levels. That's where TOMRA can make the difference. Our sorting solutions not only protect your brand through constant and qualitative output, but also offer you a competitive advantage.

#### **SORTING IS VITAL**

Consumer awareness has grown significantly over the past years and customers expect products that are safe to eat. TOMRA can help you harmonizing the product quality on the one hand and the production costs on the other.

We're committed to provide you with a proven, and reliable solution, because together we cannot only boost your current business but also create new opportunities for the future.

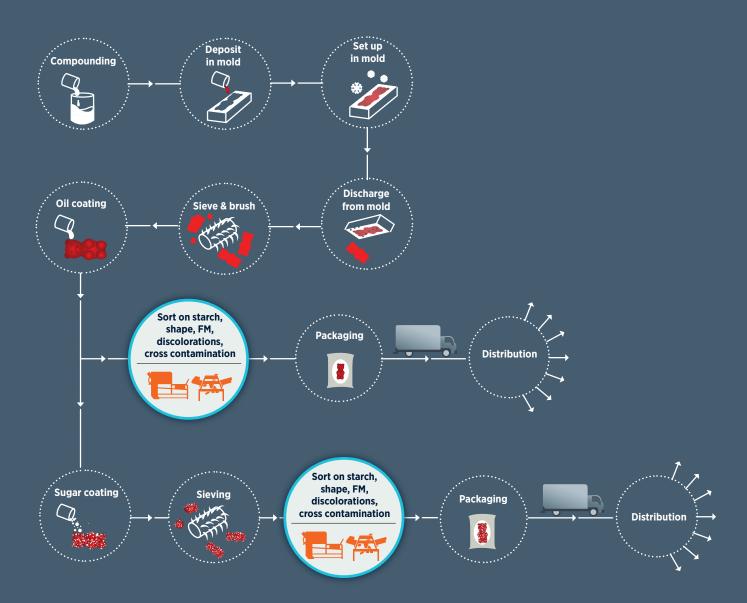






# **SENSOR-BASED SOLUTIONS**

This diagram illustrates where our machines can increase your productivity and boost efficiency. The actual implementation of our sorting solutions is discussed based on your specific needs.



TOMRA offers a solution to fit your processing line and budget.



## **BENEFITS**

#### **QUALITY & YIELD MAXIMISATION**

From a consumer's perspective, quality is crucial, while processors want to maximise their efficiency and productivity. TOMRA's innovative sorting technology helps you to realize both objectives and keeps your business profitable.

#### **FOOD SAFETY**

The production of tasty and safe food is a key component to grow customer loyalty, and to maintain or even enlarge your market share. Also after the addition of specific coatings our solutions guarantee the removal of any unwanted products.

#### **VITAMIN ENHANCED GUMMIES**

Vitamins for different types of consumers, and thus changing compositions, are often produced in the same plant. Even when these have the same taste, color or shape, cross contamination in the end product are avoided thanks to the implementation of TOMRA's reliable and versatile sorters.

## **TECHNOLOGY**

#### **LASER**

TOMRA's laser technology sorts based on color and structural characteristics. Laser scanning detects contaminants even when the produce and the defects have the same color, or when unwanted materials are invisible for the human eye. The laser module can be enhanced with an Advanced Foreign Material Detector (AFMD), sorting on product specific features. Defects like wood and starch, whether free-flowing or attached are items of the past, even when you are producing gummies with a foamy layer.

#### **CAMERA & LED**

Recognition of materials based on color and shape is guaranteed thanks to the use of cameras. Their capabilities go beyond the visible spectrum and include infrared, ultraviolet and other spectra. TOMRA has developed exclusive high resolution cameras with an adapted spectrum, ideal for optical food sorting.

#### SHAPE RECOGNITION MODULE

Using high definition illumination and high resolution sensors, sophisticated TOMRA object analysis software checks and establishes a consistent measurement for the shape of every product scanned. Based on easy adjustable settings, the sorter removes minor misshapen produce. In combination with the high capacities being processed by the sorter, the shape analysis module's effectiveness outshines the competition thanks to is its speed and versatility.





#### **ADVANCED SORTING PARAMETERS**

| <ul><li>Gross</li><li>Good</li><li>Excellent</li></ul> | High<br>performance<br>GENIUS | High<br>performance<br>NIMBUS |
|--|-------------------------------|-------------------------------|
| Technology   | CAMERA &<br>LASER             | CAMERA &<br>LASER             |
| Rejection  | 2 way                         | 2 way                         |
| Shape  | •••                           | ••                            |
| Color  | •••                           | •••                           |
| Adhesive starch  | ••                            | •••                           |
| Starch & Foreign material                              | •••                           | •••                           |
| Cross contamination                                    | ••                            | ••                            |

#### TYPICAL DEFECTS



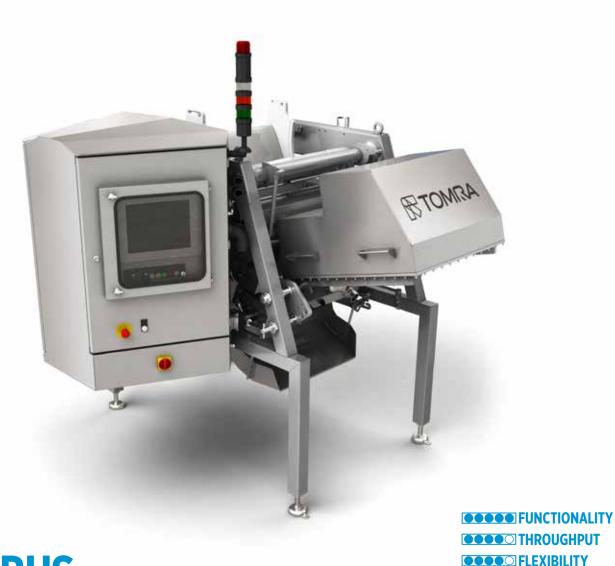
# OUR SORTING SOLUTIONS



This modular sorter drastically improves produce quality and increases food safety through the removal of foreign material, starch, discolorations, shape differences and cross contamination.

By combining application specific high resolution cameras and lasers in different inspection zones, the Genius can be fitted to every processor's needs. The sorter inspects produce in flight, on or off belt, and sorts it into two outputs.

High precision air valves guarantee the optimal removal of defects. Even hard and delicate candy is processed at high capacities without breakage and extra produce loss. Feedback on sorting performance and results is provided through the user-friendly graphical interface. Its stable performance, low maintenance and upgradeability increase the machine's return on investment.



**NIMBUS** 

The Nimbus ensures the delivery of safe food by removing any unwanted discolorations, foreign material, deformed products and more. The new generation of free-fall sorting solutions combines the efficiency of laser detection and camera technology. Given the nature of gummies and the typical defects that might occur, the Nimbus is equipped with a front ejection system, eliminating the risk of cross contamination, in the end

optimizing your yield. If required, the machine can also be equipped with a recycle lane to recover reusable product from the reject stream. The advanced sorting technology, in combination with the machine's small footprint, make it a highly efficient and cost-effective solution. Thanks to its double sided laser capabilities, adhesive starch, even on foamy layered product is a problem of the past.



TOMRA Sorting Solutions Food is the leading provider of sensor based sorting, peeling and processing technology for the fresh- and processed food industries.

Turning yield into usage, profits into progress, TOMRA transforms the way the world obtains, uses, and reuses its resources.

If you are interested in a free demonstration with your own product or if you need more information, please contact us directly.



#### TOMRA Sorting Food AMERICAS

#### **TOMRA Sorting Food ASIA**