# PATTERN SORTING TOOL

**VISION**
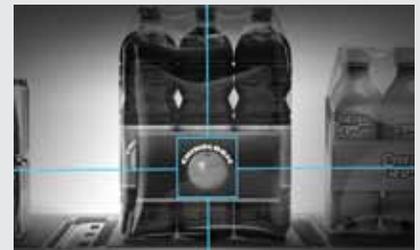
## PATTERN SORTING TOOL

The Pattern Sorting Tool (PST) is a revolutionary and unrivalled new pattern matching tool for sorting applications now available in the IMPACT Software Suite. This state-of-the-art patented algorithm is able to find thousands of different patterns in an extremely effective way.

The Pattern Sorting Tool guarantees maximum performances and consistency in any situation, even with objects poor of texture in cluttered fields of view. This tool is a tremendous breakthrough in the machine vision industry as no algorithm is able to offer a reliable and robust recognition over such wide pattern databases today.



## APPLICATIONS





Thanks to Its capability to manage big databases of patterns, the PST is able to distinguish among thousands of different items manufactured or simply conveyed on the same line. The algorithm delivers robust recognition in any situation (e.g. 360° pattern rotations, perspective distortions, different scales and light variations).





The PST is not just a tool for item sorting. The algorithm can be used for many different purposes and applications. For instance it can detect the presence of stickers or logos as well as identify items by means of the artworks printed on the package.

## PRODUCT HIGHLIGHTS

**Large pattern database management**

The PST is able to handle databases with thousands of different patterns. With the new Pattern Database Manager (PDM) software application, users can easily create new databases or edit existing ones.

**Recognition of patterns with random orientation and different sizes**

The Pattern Sorting Tool is able to find a trained pattern no matter its position and orientation. Moreover, the algorithm can detect a reference pattern even when its dimensions are not fixed.

**Robustness against out-of-plane rotations**

The Pattern Sorting Tool is able to cope with perspective distortions (i.e. out-of-plane pattern rotations). This capability is absolutely needed when the objects to inspect have variable and inconsistent positioning (e.g. boxes on a conveyor belt) or have irregular shapes (non-planar objects).
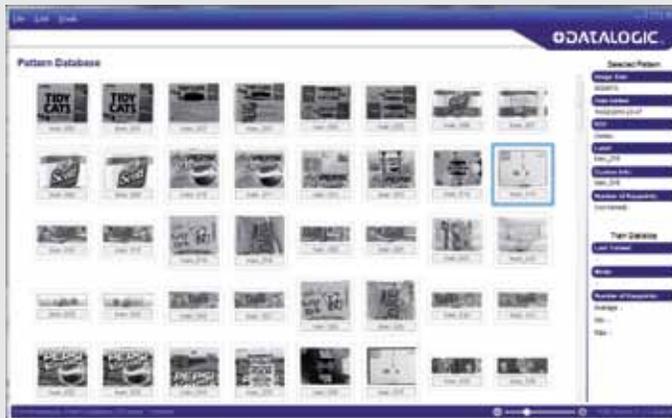
**Partially occluded pattern detection**

Partially occluded patterns do not represent an issue for the PST. By leveraging its ability to extract and match several pattern features simultaneously, the algorithm is able to identify patterns even when partially damaged or occluded.

**Robustness against light variations**

The Pattern Sorting Tool extracts and matches features with minimum dependency to lighting. This guarantees an extremely reliable pattern detection even when the surrounding lighting is variable and inconsistent.

## PATTERN DATABASE MANAGER (PDM)



With the new Pattern Database Manager (PDM) software application, users can easily create new databases or edit existing ones.
Adding, modifying or deleting patterns is quick and intuitive as well as linking the whole database to one or more IMPACT .vp files.

## MODEL SELECTION AND ORDER INFORMATION

| DESCRIPTION | ORDER N° |
|---|---|
| License, Pattern Sorting Tool, MX Series | 95A906375 |

The Pattern Sorting Tool license can be enabled on MX40 and MX80 Vision Processor models running Win 7 OS. The tool license is sold on a per-processor basis i.e. once enabled on a Vision Processor it can be used with all connected cameras.