



## IMPACT SOFTWARE

With over 120 inspection tools and 50 user interface controls, **Impact Software** allows users to create unique inspection programs and develop user interfaces quickly and easily.

All this can be done without the loss of flexibility, like traditional configurable systems, or the need for vast amounts of development time like traditional SDK environments.

Impact Software powers the full line of integrated vision solutions, from simple to complex. The investment in software and training is preserved as inspections grow. Programs for the same inspections can be easily shared or transferred across multiple inspection points within the factory.

**One software – countless applications!**

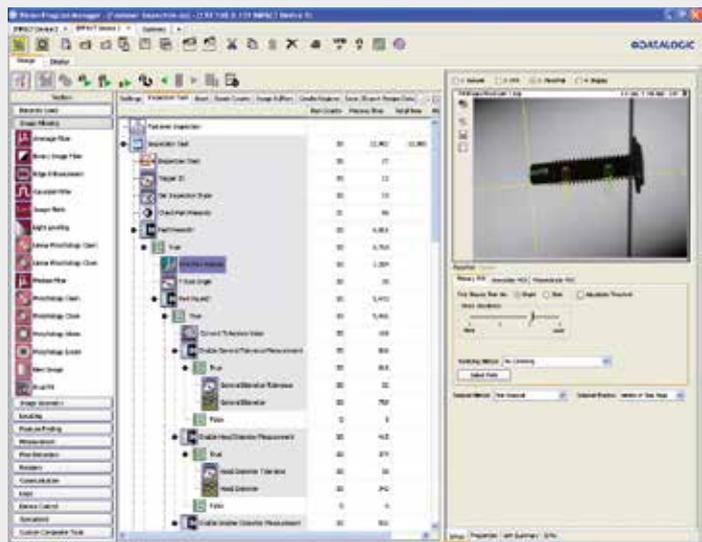


VISION

## VISION PROGRAM MANAGER



Vision Program Manager (VPM) provides hundreds of image processing and analysis functions. Use VPM to enhance images, locate features, measure objects, check for presence and read text and bar codes.



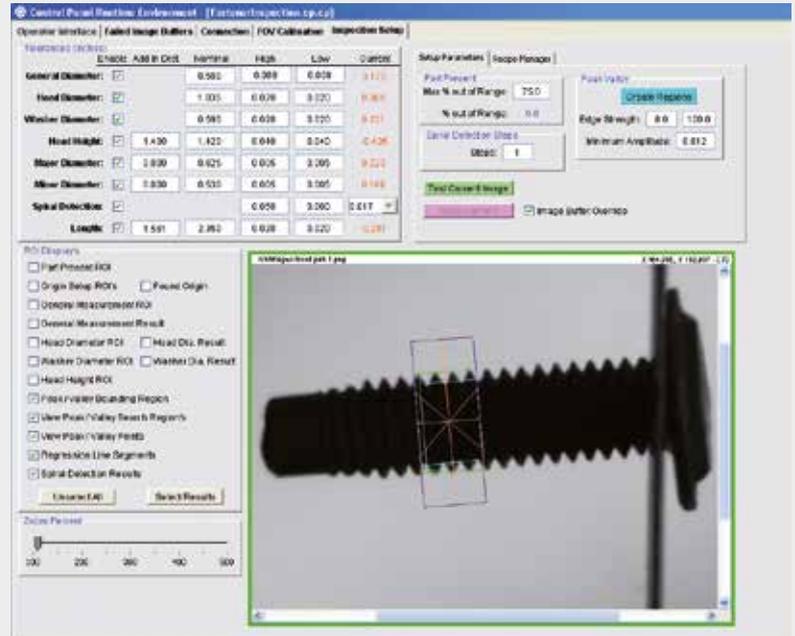
SOFTWARE TOOL GROUP	WHAT THEY DO
Image filtering	Modifies incoming images by applying filtering, edge detection and other image enhancing techniques to help improve inspection robustness.
Image geometry	Modifies the image shape to correct for distortion, size or to allow for sampling of the image data.
Locating	Designed to find specific features in the inspection image, such as edges or unique shapes, to provide a reference position for other inspection tools.
Feature finding	Identifies features through the setting of specific parameters such as shape, size, color, intensity or other attributes.
Measurement	Provides distance measurements between any set of points, features, edges or combination of points and edges.
Flaw detection	Identifies flaws based on setting specific tolerances for shape, size, color, intensity or other attributes.
Readers	Allows for the reading of machine or human readable codes such as barcode, datamatrix and alpha-numeric printed data.
Communications	Provides the ability to send data to other devices using tcp/ip, serial, modbus, opc or other protocols.
Logic	Performs basic arithmetic and logical operations on vision results. Also allows for creation of looping structures in the vision program without writing code.
Device control	Allows for the modification of camera settings or system configuration from the vision program.

## CONTROL PANEL MANAGER



Control Panel Manager (CPM) simplifies development of operator interfaces while providing the ability to make on the fly adjustments to critical machine controls.

Use CPM to create operator interface panels operator interface panels to view and adjust critical machine controls.



FEATURE	BENEFIT
Drag-and-drop linking	Provides easy data transfer from VPM
Password protected	Prevents unauthorized changes to critical inspections
Image logging	Enhances file and process debugging
Built-in graphics	Easily displays process statistics
Reusable control panel templates	Reduces application development time and cost
Edit settings	Online tweaks machine controls in real time

## IMPACT SOFTWARE

### One software fits all

The entire range of smart cameras and vision processors can be configured through the Impact Software suite. Users need only learn one program thus shortening their learning curve. Once developed, the same application can be used on different hardware platforms with no modifications or reprogramming.

### Ease-of-use

Impact Software suite is a graphical user interface where no programming is required. Neither VPM nor CPM forces a user to write code. Rather, developers need only to drag-and-drop tools into the tree view and set parameters. Thanks to the embedded emulator, settings can be tested immediately with images previously stored on the PC.

### Wide range of controls

With more than 120 software tools, Impact is one of the most complete machine vision software suites available on the market.

Image filtering, calibration, feature locating, flaw detection, measurement and code reading are just few examples of the wide range of tools available which allow users to solve even the most challenging applications.

### Control Panel Manager (CPM)

Developers can easily create customized user interfaces thanks to Control Panel Manager (CPM). This software allows users to build up full HMIs just by dragging and dropping controls onto a panel. Authorized operators have the possibility to check images, results and statistics as well as to adjust or modify the working parameters of inspection tasks.

## ADVANCED OCR TOOL

The advanced OCR tool is a powerful vision software tool able to read challenging alphanumeric strings printed over labels or directly marked (DPM) into industrial products. This new tool ensures robust and reliable reading of hard to read characters under difficult conditions, such as non-uniform background, variable light conditions, and curved surfaces.

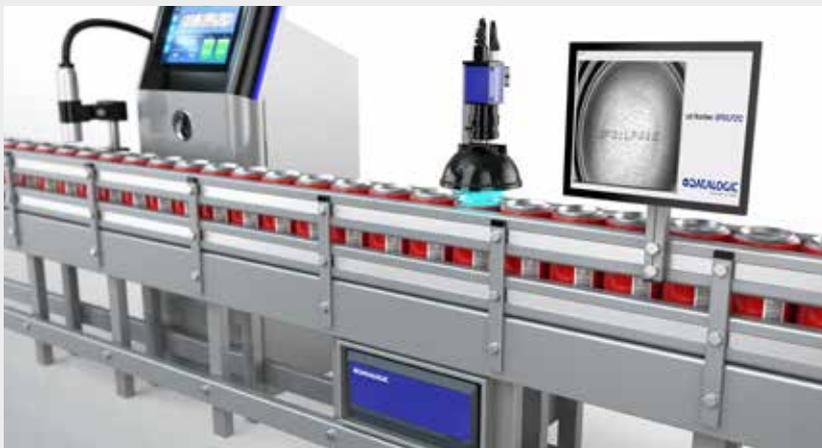
Available with the IMPACT software, Advanced OCR is extremely intuitive featuring quick character training and easy to use string verification modes. Users can segment a string instantly with the auto segmentation capability and then train characters by typing them in. Two string verification modes, OCR and OCV, together with three different options for verify string inputs guarantee full application flexibility.

Advanced OCR is the best solution for reading ink-jet printed dot matrix strings on package labels and embossed characters on mechanical parts or components, respectively in the Food & Beverage and Automotive industries.



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## APPLICATIONS

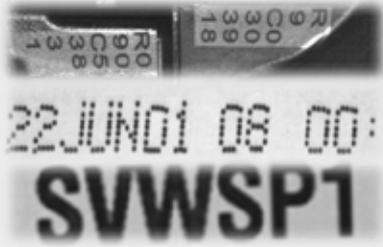


The outstanding Advanced OCR software algorithm ensures the highest reading reliability of ink-jet dot matrix characters on challenging surfaces (i.e. cans, bottles,..)



IMPACT Advanced OCR tool is able to effectively read serial numbers directly marked on automotive parts, even when surfaces are strongly reflective, rough and curved.

## PRODUCT HIGHLIGHTS



### Effective with difficult to read characters

The Advanced OCR tool is highly effective with ink-jet dot matrix or engraved characters. It is also able to read low contrast and slanted characters. When characters are trained, it recognizes them even if they are not well spaced and touching each other.



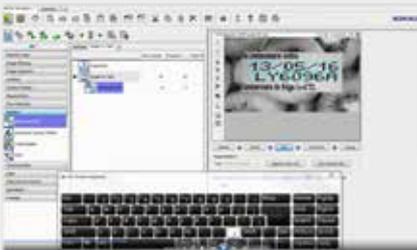
### Robust against variable background and difficult light conditions

Advanced OCR delivers robust and reliable readings even with variable background or corrupted by noise. It ensures excellent performances even with difficult light condition.



### Reliable with challenging codes

Advanced OCR tool works perfectly with distorted printings, embossed and marked codes, as well as easily perishable labels. It is the best solutions for the most challenging codes even on irregular surfaces.



### Easy of use and fast OCR application development

Advanced OCR is extremely intuitive ensuring quick characters training and easy management of the database of fonts. OCR and OCV modes together with three different string verification options deliver full application flexibility.

## MODEL SELECTION AND ORDER INFORMATION

DESCRIPTION	ORDER N°
Dongle, IMPACT, OCR*	93ACC0186
License, OCR, Processor	95A906998

\* It can only be ordered for MX-E vision processors.

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



## PATTERN SORTING TOOL

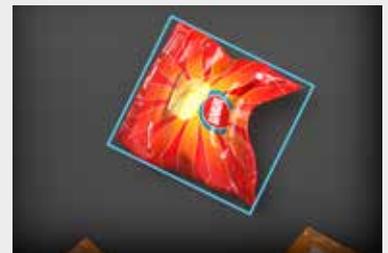
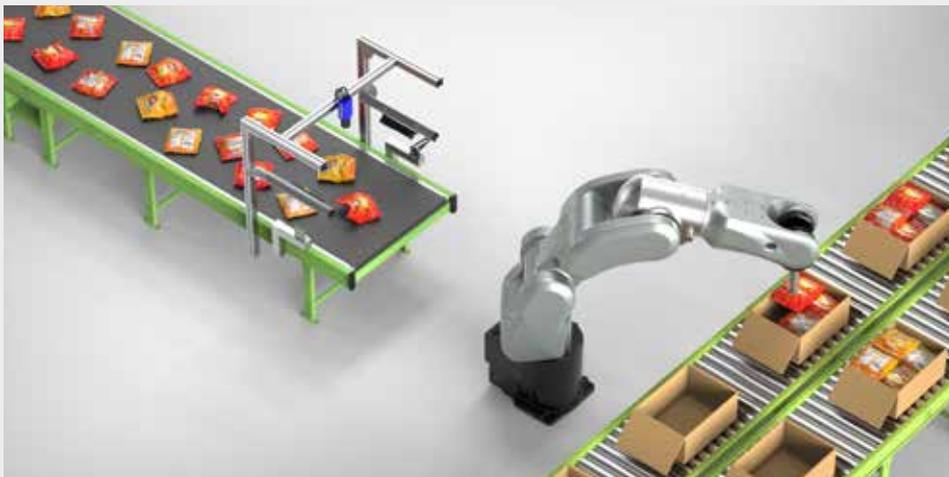
The Pattern Sorting Tool (PST) is a unique machine vision software tool that is able to recognize thousands of different objects according to their appearance, delivering the ability to identify products without the use of bar code detection. This leading-edge algorithm detects thousands of different patterns in an extremely effective way.

The Pattern Sorting Tool guarantees maximum performance and consistency in any situation; even patterns on difficult textures and in cluttered fields of view are detected yielding accurate product identification. This tool is a tremendous breakthrough in the machine vision industry. No other algorithm available is able to offer as reliable and robust recognition over such wide pattern databases.



VISION

## APPLICATIONS



IMPACT Pattern Sorting Tool identifies and locates objects even in soft packaging such as chips, biscuits, frozen goods and pasta, enabling robot picking and sorting.



Its capability to manage large databases of patterns allows Pattern Sorting Tool to distinguish among thousands of different items manufactured or travelling on a conveyor. The algorithm delivers robust recognition in any situation: 360° pattern rotations, perspective distortions, different scales and light variations.



Datalogic vision systems running the IMPACT Pattern Sortation Tool enable countless machine vision applications for pattern recognition. The Pattern Sorting tool enables cross-check applications that ensure package contents match the information on the pallet or tote label.



The Pattern Sorting tool assists the safe handling of hazardous materials with its reliable HAZMAT label detection, minimizing risks to operators.

## PRODUCT HIGHLIGHTS



### Large pattern database management

The Pattern Sorting Tool handles databases with thousands of different patterns. Users can easily create new databases or edit existing ones.



### Recognition of Patterns Regardless of Size & Orientation

The Pattern Sorting Tool finds a trained pattern no matter its position and orientation. The algorithm can detect a reference pattern even when its dimensions are not fixed.



### Recognition of Out-of-Plane Rotations

The Pattern Sorting Tool effectively handles perspective distortions, out-of-plane pattern rotations. This capability is essential for inspection of objects having variable and inconsistent positioning or irregular shapes (e.g. boxes on a conveyor belt, non-planar objects).



### Capability of discriminating similar patterns

The PST allows users to draw a secondary ROI to search slight differences within a specific area of two similar patterns. As a result, patterns with small differences can be distinguished.



### Partially occluded pattern detection

The Pattern Sorting Tool effectively handles partially occluded patterns. 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.



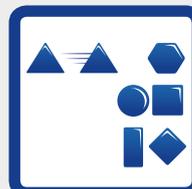
### Unaffected by Lighting Variations

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



### Color Match

When color detection is enabled, the Pattern Sorting Tool allows to distinguish patterns that differ from colors.



### Fast pattern training and database update

No need to retrain the database when adding or removing few patterns. A smart train ROI, automatic unknown pattern training and labelling speed up application deployment process.

## MODEL SELECTION AND ORDER INFORMATION

DESCRIPTION	ORDER N°
Dongle, IMPACT, PST*	93ACC0187
License, Pattern Sorting Tool, Processor	95A906545

\* It can only be ordered for MX-E40 and MX-E80 vision processors.

The Pattern Sorting Tool license can be enabled on MX-U40/80 and MX-E40/80 Vision Processor models running Windows Embedded Standard 7. 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.

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