PRODUCT GUIDE

>Machine Vision

Impact SOFTWARE

◆DATALOGIC

MACHINE VISION

The Machine Vision Business Unit of Datalogic Industrial Automation is built upon the acquisition of PPT Vision Inc. in 2011. For over 30 years, PPT Vision has focused exclusively on the development of machine vision technology for in-line automated inspection and factory automation. Thanks to its extensive experience of thousands of successful machine vision installations throughout the world, PPT has become a recognized world leader in machine vision innovation and has brought unique benefits to customers:

- **A single machine vision software platform** - Programming software that is flexible, powerful, and common to all smart cameras and embedded vision system products. This means no operator cross-training and no need to maintain different software platforms– just select the hardware you want and go! Transfer inspection programs from one camera to another and back again without redeveloping the application.

- **Flexibility and Security** - Control Panel Manager (CPM) - a control panel software that is not only secure, but field-configurable and common to all products. Protect your inspection and system configuration from unauthorized users, but allow qualified personnel as much flexibility as they need. CPM provides ultimate flexibility when compared to complicated software programming languages and allows you to create control panels in a mere fraction of the time. Connect and view data from one or many vision systems with just a click of a button.

- **Time-to-market** - Personalized, technically superior and committed customer support. We can provide you with as much support as you need when it comes to delivering application solutions. Choose one of our highly skilled and qualified application engineers or training specialists, or select a certified partner to guide you from application concept to installation and qualification of your system.

- **Large product portfolio** - Hardware platforms that allow our customers to expand their range of applications. From the simplest vision sensors to the highest performance embedded processors, we can deliver a vision system optimized for your inspection needs. Choose a smart camera in an inline or right angle version, color or greyscale sensor, CCD or CMOS sensor; it does not matter because we have you covered. For vision processors, select from a single to multi-headed area scan or line scan cameras that range from VGA to ultra-high resolution images.

Today, after completion of the integration process between Datalogic Industrial Automation and PPT Vision Inc., the combined product lines of the two companies encompass both hardware and software while covering a wide range of performance and price point requirements. Selling through a global network of experienced distributors and integration partners, Datalogic Automation is the complete solution provider for all your machine vision needs.

TECHNOLOGY TIMELINE

1982	1984	1991	1991	1994	1997	1997	2000	2001	2002	2002
Founded as Pattern Processing Technologies	APP 200 Series Vision System Introduced	Vision Process Controller (VPC) Product Released	Vision Program Manager (Classic) Software Released	PPT Vision releases the Passport Scout Product Lineup	PPT Acquires 3D Scanning Moiré Interferometry (SMI) Technology	DSL Vision System Introduced – World's First Full Digital Vision System	Microelectronics Product Group (MPG) Developed	PPT 861 3D Product released for Semiconductor Business	IMPACT C – Series Tethered Smart Camera Product Introduced	IMPACT Software Suite Released (Vision Program Manager & Control Panel Manager)

KEY BENEFITS

MACHINE VISION PRODUCT GROUP

- **Vision Sensors**
- **Smart Cameras**
- **Vision Processors**
- **Machine Vision Software**

Our complete family of high-performance smart cameras and embedded machine vision systems utilizes the same software across all products. The hardware consists of vision sensors, smart cameras, and embedded vision systems. These products are specifically designed and developed by our engineers to meet all your manufacturing inspection requirements and to get your application up and running faster than anyone else in the industry – Guaranteed!

INNOVATION

Through continuous development and refinement, our product line is the most complete hardware and software solution available on the market today.

EXPERIENCE

With 30 years in the machine vision business and thousands of successful customer installations, our organization and partners are able to solve the most challenging inspection applications within a wide variety of markets and manufacturing settings.

RESPONSIVENESS

Together with our global distribution and integration partners, pride our self on providing a level of training and support that is unmatched in the industry. We listen, then execute – turning our customers' requirements into solutions faster than anyone else.

2003	2003	2004	2005	2006	2007	2010	2010	2011	2012
Integrates CameraLink into C–Series Processor	OCR Software Released	IMPACT T – Series Inline Smart Camera Introduced	Datalogic SCS1 Smart Camera Introduced	IMPACT A – Series Right Angle Smart Camera Introduced	Datalogic DataVS Vision Sensor introduced	MX40 Multi camera vision processor Introduced	New Improved Pattern Finding Software Released	PPT Vision acquired by Datalogic	PPT Vision Inc. becomes the Machine Vision BU of Datalogic Industrial Automation

VISION SENSORS

DATA VS2

Machine vision is now closer than ever to photoelectric sensors thanks to DataVS2 series.

DataVS2 vision sensors feature a built-in illuminator and integrated optics to offer maximum compactness and installation simplicity.

The wide range of controls together with the easy-to-use Graphical User Interface allows the user to solve simple machine vision applications in a quick and effective way.

DataVS2 is available in four versions with different software features:
- DataVS2 Object Recognition (OBJ)
- DataVS2 Advanced Object Recognition (AOR)
- DataVS2 Identification (ID)
- DataVS2 Professional (PRO)

DataVS2 is the right solution when standard photoelectric sensors are not able to meet application requirements and represents a cost-effective and easy-to-use alternative to traditional vision systems.

HIGHLIGHTS

- **Wizard based configuration software**
- **Versatile PC setup and emulator functionality**
- **Ethernet communication capability**
- **360° Pattern Match**
- **Barcode and Datamatrix readers**
- **Monitoring and tuning available through a remote monitor (VSM) with no PC**

APPLICATIONS

- Logo Check
- Product / Part presence and orientation
- Label position
- Component Counting
- Data & Lot Code Presence

ELECTRONIC

The T4x-Series product is a high performance, ruggedized smart camera that can address most single camera inspection needs.

The T4x-Series product incorporates high quality CCD imagers, a class rating of IP67 and the latest in high performance processors. This makes it perfectly suited for the demands of high density pin inspections in the automotive and telecom industries. These connectors require not only verification of pin presence, but also high precision measurements across, potentially, several hundred pins and key feature locations.
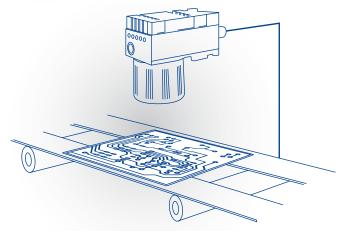
SMART CAMERAS

A/T SERIES

The A and T-Series smart camera products are standalone, general-purpose, industrialized machine vision inspection systems that allow for incredible flexibility in programming through the Impact software.

With models ranging from standard VGA resolution up to 5 Megapixels, the A and T-Series smart cameras can deliver the right solution for your general-purpose machine vision needs or specific application inspection requirements.

HIGHLIGHTS

- **Real time operating system for accurate results**
- **Full machine vision capability and programmability – not a configurable sensor**
- **Can run headless or provide data to PCs**
- **Industrially hardened enclosure - up to IP67 rating**
- **Full serial and Ethernet communication capability**
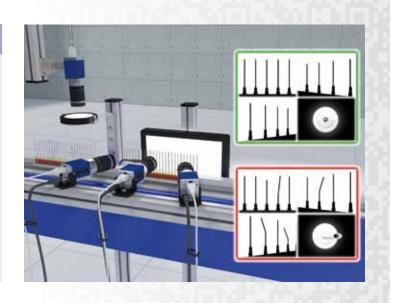- **Built in discrete I/O**
- **90 Degree and in-line camera formats**

APPLICATIONS

- Lot Code Verification
- Optical Character Recognition (Reading Product Serial Numbers)
- Precision Repeating Measurements (Measuring Integrated Circuit Contacts)
- Plastic Molding Short Shot Detection (Carrier Tape Inspection)
- Pattern Finding (Locating and Identifying Product Orientation)
- Color Verification and Sorting (Color Cap Inspection)

MEDICAL

The M-Series vision processor product line up provides you with the most image processing performance in a fully integrated vision system. With multi-core processors, these systems can handle the most demanding high-speed and multi-camera applications, such as hypodermic needle inspection. The needle application shown here requires the system to image and verify needle length, straightness, and epoxy presence from three different cameras, while a fourth camera checks for grinding defects at the end of the needle. This inspection is being performed at seventeen needles per second.

VISION PROCESSORS

MX-SERIES

Vision processors provide the highest performance in image processing with even more flexibility through multi-camera support.
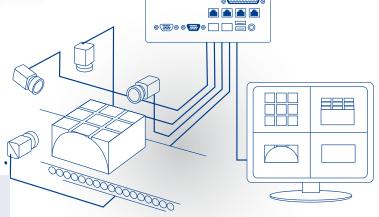
Connect to multiple camera formats at one time (e.g. area scan, line scan, high resolution, 3 CCD, etc. on same processor) via GigE Vision standards.

Three models allow you to choose the correct level of performance based on your application needs – from economical to high performance.

HIGHLIGHTS

- **Three levels of high-powered image processing capability**
- **Seamless integration with standard factory networks and secondary software packages**
- **Over 100 different GigE Vision cameras supported, including line scan**
- **Use different cameras formats and resolutions on one processor**
- **Complete software tool set for ultimate programming flexibility**
- **Place cameras a long distance apart**
- **No need for a secondary PC to view or retain images and inspection data**
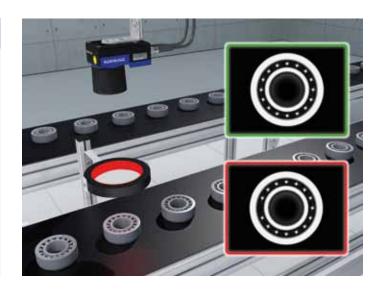
APPLICATIONS

- High-Resolution Image Analysis (LCD Panel Inspection)
- High-Speed Product Inspection (Web or Continuous Part Inspection)
- Multi-Camera Inspection (Hypodermic Needle Inspection)
- Line scan Applications (Automotive or Telecom Connector Inspection)
- Image Unwrapping (Code Reading on Circular Objects)
- High-Resolution Color Analysis (Color Matching Inspection)

AUTOMOTIVE

The A-Series smart camera provides the perfect balance of size, functionality, and pricing to easily support a multitude of tasks, including the verification of objects within an assembly. In this case, the system assures that all of the bearings are in place regardless of position or actual number found. The result is image and data output to the user interface and, at the same time, signals to a reject device.

MACHINE VISION SOFTWARE

IMPACT SOFTWARE

Impact Software Suite, with over 120 software tools and controls, allows you to create unique inspection programs and develop user interfaces quickly and easily.

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

One software – countless applications!

HIGHLIGHTS

- Graphical icon-based drag and drop user interface – no programming required
- Easy to understand, tree-view logic flow
- Tool Setups guide users through step-by-step tool configuration
- Includes inspection and user interface development programs as well as a runtime user interface
- Runs on all smart camera and vision processor platforms
- Provides complete programmatic or manual control of hardware settings
- Provides real time parameter changes of cameras
- Controls and displays images and data from multiple smart cameras or vision processors
- Password protection allows only authorized users to make changes

VISION PROGRAM MANAGER (VPM) CONTROLS:

- Image Filtering
- Locating
- Defect Finding
- Gauging
- Data and Communication
- Code Reading
- Color

CONTROL PANEL MANAGER (CPM) CONTROLS:

- Image Control
- Inspection Result Data
- Advanced GUI Development Support
- Communications
- Security Controls

FOOD PACKAGING

Thanks to its intuitiveness, ease-of-use and cost-effectiveness, DataVS2 allows you to develop reliable quality inspections with outstanding Return On Investment. The wide range of controls can easily solve several applications such as presence/absence, part position and orientation as well as label inspection. In the example, DataVS2 detects the presence of the expiration date printed on pizza packages thus guaranteeing the maximum product quality and traceability. Moreover, thanks to the use of VSM, the operator can easily monitor the device behavior and change the running inspection when a product changeover occurs.

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