

PPT VISION — About Us:

For over 20 years, PPT VISION has focused exclusively on the development of machine vision technology for in-line, automated inspection. With thousands of successful machine vision installations throughout the world – in a broad range of manufacturing applications, PPT VISION is recognized as a world leader in machine vision innovation.

IMPACT is a family of high-performance, easy to use intelligent camera products from PPT VISION. The IMPACT product line encompasses both hardware and software, covering a wide range of performance and price point requirements. Selling through a global network of experienced distributor and integrator partners, PPT VISION is your one-stop shop for all your machine vision needs.



IMPACT A

IMPACT T

IMPACT C

Processor Speed	1X	2X	4X
Number of Models	1	9	9
Image Resolution Available	752 x 480	640 x 480; 1024 x 768; 1280 x 1024; 1600 x 1200	640 x 480; 1024 x 768; 1280 x 1024; 1600 x 1200
Number of Color Models	—	3	3
Imager Interface	On-Board	On-Board	DSL (Digital) / CameraLink
On-Board Image Buffering	Up to 60 images ¹	Up to 60 images ¹	Up to 60 images ¹
Program Storage	256MB Flash	256MB Flash	256MB Flash
Software Application	KickStart, VPM, CPM	KickStart, VPM, CPM	KickStart, VPM, CPM
PC Emulator Support	Yes	Yes	Yes

Imager Types	CMOS	CCD, CMOS	CCD, CMOS
Shutter Mode	Global	Global	Global
Strobe Output	1	1	3

On-Board Optically Isolated I/O	3 In / 5 Out	3 In / 3 Out	7 In / 11 Out
I/O Wiring	PNP/NPN	PNP/NPN	PNP/NPN
Supports I/O Expansion	Yes	Yes	Yes
On-Board Serial Port	Yes	Yes	Yes
Ethernet Connection	Yes	Yes	Yes

Power Requirements	24VDC@0.5A	24VDC@0.5A	24VDC@2A
Dimensions	5.5 x 2.68 x 0.94 in (140 x 68 x 24 mm)	5.43 x 2.5 x 1.75 in (138 x 63 x 45 mm)	7.99 x 6.75 x 2.75 in (203 x 172 x 70 mm)
Weight	0.96 lb (0.44 kg)	0.85 lb (0.37 kg)	3.5 lb (1.59 kg)
Operation Temperature	-5° to 45° C	-5° to 45° C	-5° to 45° C

¹Calculation based on 640 x 480 images

PPT VISION's Key Benefits:

INNOVATION

Since 1982, PPT VISION has been a machine vision technology leader. The IMPACT product line is the most complete, intelligent camera solution available today.

EXPERIENCE

With over 20 years in the business and thousands of successful installations, PPT VISION and its partners are able to solve the most challenging machine vision applications in a wide variety of manufacturing settings.

RESPONSIVENESS

Together with our global distribution and integration partners, at PPT VISION we pride ourselves 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.

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I/O and Communication, Lighting and Optics.

The strongest & most comprehensive hardware offering on the market today.

Same software runs on all cameras, covering the complete range of vision applications.

ECONOMICAL

IMPACT A The power of a vision system in a vision sensor footprint.



- The most economical intelligent camera on the market
- Market leading image processing power
- Abundant memory for advanced tool and large file support
- Industrial connector integrating power, optically-isolated I/O and serial communications
- Industrial connector supporting Gig-E Ethernet communications
- Compatible with all components in the IMPACT™ Software Suite

WIDE-RANGING

IMPACT T Industry's best general purpose intelligent cameras.



- **2X** IMPACT A's image processing power
- Abundant memory for advanced tool and large file support
- Supports a wide range of cameras including grayscale and color; CCD and CMOS; and available in a variety of image resolutions
- Industrial connector integrating power, optically-isolated I/O and serial communications
- Industrial connector supporting Gig-E Ethernet communications
- Compatible with all components in the IMPACT Software Suite

PERFORMANCE

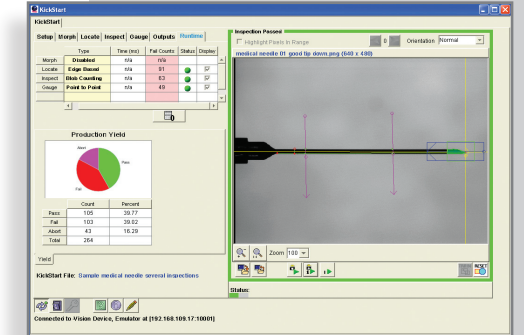
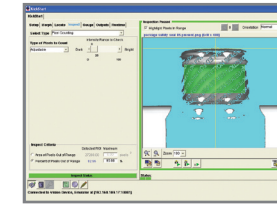
IMPACT C Highest performing, state-of-the-art intelligent cameras with a digital interface.



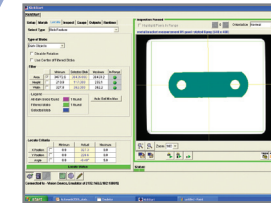
- **4X** IMPACT A's image processing power
- Abundant memory for advanced tool and large file support
- Supports one remote, IMPACT C camera or CameraLink connection
- Supports a wide range of cameras including grayscale/color CCD/CMOS and available in a variety of imager resolutions
- Industrial connectors for power, optically-isolated I/O, serial and Ethernet communications
- DIN-rail mountable
- Compatible with all components in the IMPACT Software Suite

Create instant inspections. KickStart™

- Quickly configure, debug and deploy software
- Pre-configured setup panels with image display aids inspection setup

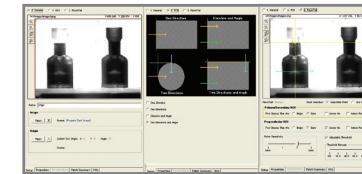


- Complete inspection in 6 easy steps
- I/O setup in seconds
- Comprehensive inspection statistics available on Runtime tab
- Content-sensitive Help menus
- Video clips available for self-directed training

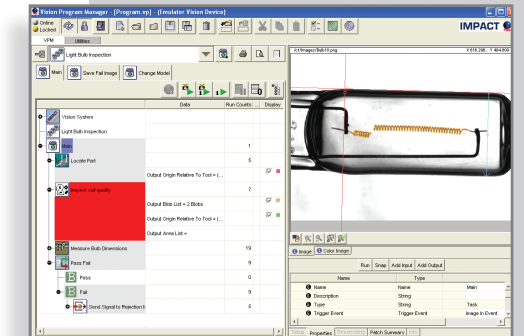
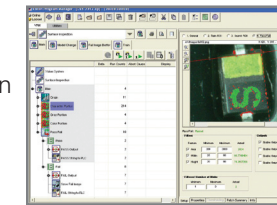


Build complete inspection solutions with icon-based programming. VPM™

- Graphical icon-based programming
- Easy-to-understand, tree-view logic flow



- Setups guide users through step-by-step tool configuration
- 95+ tools to solve any application

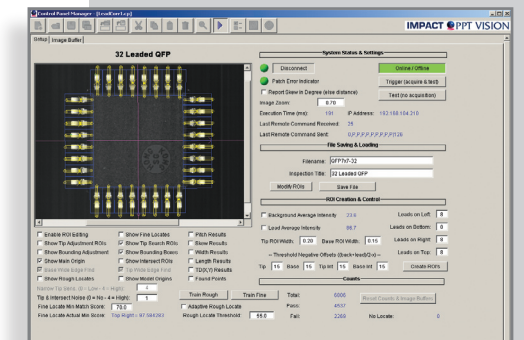
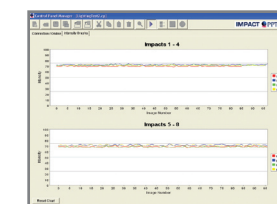


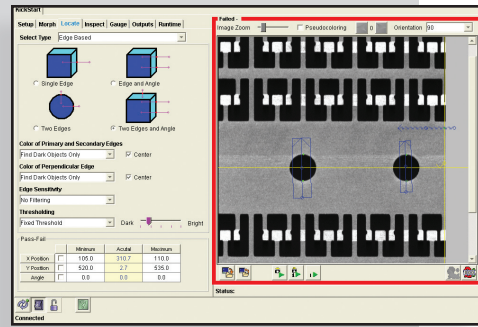
Design customized HMI panels. CPM™

- Offers graphical tool-based environment for creating a customized Human Machine Interface (HMI)
- Create customized charts and tables
- Password protection allows only authorized users to make changes



- Allows for real-time parameter changes to connected IMPACT cameras
- Displays images and data from multiple IMPACT cameras





KickStart's preconfigured setup panels with image display aid inspection setup so no code writing or tool editing skills are required.

- Image Processing
- Average Gradient
- Average Intensity
- Blob
- Blob Filter
- Character Contour Match
- Circular Pattern Find
- Clip ROI
- Contour Pattern Find
- Contrast
- Correlation Pattern Find
- Data Matrix
- Data Matrix II
- Extreme Difference
- Grayscale Template
- Image Stitching with Origins

Powerful and Advanced Image Processing Tools

IMPACT Software Suite is a single software platform that supports the entire IMPACT family of products. The software contains the latest innovations in image processing technology plus a broad range of tools for deploying vision inspection solutions in the factory environment.

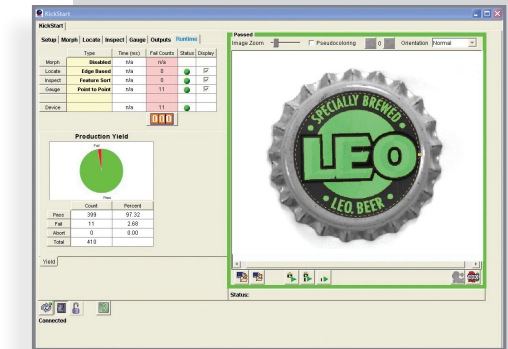
IMPACT **KickStart's** preconfigured panels offer several quick solutions to a variety of vision inspection situations, while **VPM's** extensive selection of vision tools allow you to solve the most demanding applications by creating powerful and custom application-specific inspection programs.

		KickStart	VPM
IMAGE FILTERING	Morphology Tools	Yes	Yes
	Image Sampling Tool	Yes	Yes
	Light Leveling Tool	—	Yes
	Advanced Image Filtering Toolset	—	Yes
LOCATE	Edge Based	Yes	Yes
	Blob	Yes	Yes
	Pattern Find	Yes	Yes
DETECT FINDING	Advanced Locating Toolset	—	Yes
	Pixel Counting	Yes	Yes
	Blob Counting	Yes	Yes
	Template Matching	Yes	Yes
GAUGING	Advanced Inspect Toolset	—	Yes
	Multiple Line Gauging	Yes	Yes
	Datum Line Gauging	Yes	Yes
	Circular Gauging	—	Yes
DATA COMMUNICATION	Advanced Gauging Toolset	—	Yes
	Discrete I/O	Yes	Yes
	Serial	—	Yes
	TCP/IP	—	Yes
CODE READING	Ethernet IP	—	Yes
	ActiveX	—	Yes
	1D Barcode	—	Yes
APPLICATION SPECIFIC	2D Matrix	—	Yes
	OCR	—	Yes
	Automotive Bead	—	Yes
	Image Stitching	—	Yes
COLOR	CCM (OCV)	—	Yes
	Advanced App. Specific Tools	—	Yes
	Color Blob	—	Yes
	Color Checker	—	Yes
	Color Template	—	Yes
	Programmable Logic Tool Flow	—	Yes
	BASIC Programming	—	Yes

The VPM programming environment is user-friendly, and its icon-based programming structure allows users to easily create custom solutions using over ninety advanced vision tools, including Blob Analysis, Circular Pattern Find, Image stitching, OCR and Data Matrix.

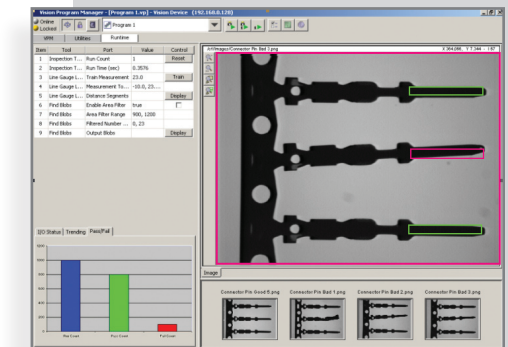
Versatile and Sophisticated Runtime Interface

A Runtime Interface is available in all three of the IMPACT Software Suite components. KickStart and VPM offer pre-configured panels showing real-time inspection results with image display capability. CPM offers powerful visual programming tools that allow you to create everything from a single-panel basic layout to a complex multi-panel, multi-layer HMI platform with a full range of advanced graphical user interface elements.

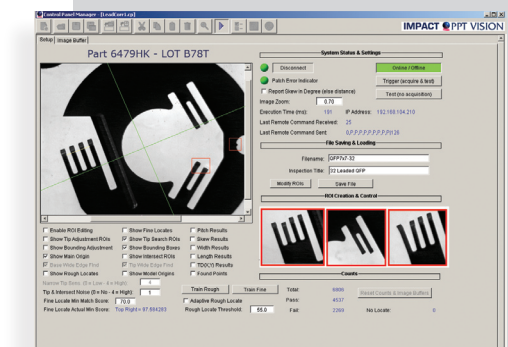


KickStart's Runtime Interface

	KickStart	VPM	CPM	
IMAGE CONTROL	Current Image Display	Yes	Yes	Yes
	Failed Image Display	Yes	Yes	Yes
	ROI Display	Yes	Yes	Yes
	Image Zoom Control	Yes	Yes	Yes
	Image Buffering	Yes	Yes	Yes
	Load Images from PC	Yes	—	Yes
	Multiple Image Display	—	—	Yes
	Configurable ROI Display Control	—	—	Yes
INSPECTION RESULTS	Pass/Fail Status	Yes	Yes	Yes
	Total Run Count	Yes	Yes	Yes
	Individual Inspection Run Count	Yes	Yes	Yes
	Production Yield Chart	Yes	Yes	Yes
	Pass/Fail Logic Programming	—	—	Yes
	Configurable Inspection Status Display	—	—	Yes
	Configurable Results Table	—	—	Yes
	Advanced SPC Charting	—	—	Yes
ADVANCED GUI	Multiple Control Panels	—	—	Yes
	Multi-Layered Tab Groups	—	—	Yes
	Customized Graphics/Logo	—	—	Yes
	Customized Look and Feel	—	—	Yes
	Rich Text Display	—	—	Yes
	Configurable Table Display	—	—	Yes
	Drop List and Scroll Bar Controls	—	—	Yes
	Radio Button Control	—	—	Yes
COMMUNICATION & SECURITY	Font Library Display	—	—	Yes
	Online Inspection Editing	Yes	Yes	Yes
	Design Mode Lockout	Yes	Yes	Yes
	Password Protected Panels	—	Yes	Yes
	Password Protected Tabs	—	—	Yes
	Data Logging	—	Yes	Yes
	Recipe Management	—	—	Yes
	Connecting to Multiple IMPACTs	—	—	Yes
Command Prompt Execution	—	—	Yes	
JAVA Scriptor	—	—	Yes	



VPM's pre-configured Runtime Interface displays real-time inspection results without additional programming required.



CPM's advanced GUI controls allows users to create custom, comprehensive, state-of-the-art HMI panels.

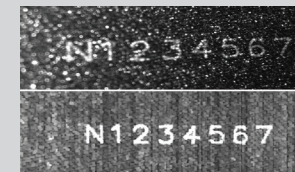
Application Breadth

For more than 20 years, PPT VISION has been serving a wide range of industries with applications ranging from part counting to high-precision measuring. Here are just a few examples:

Application Depth

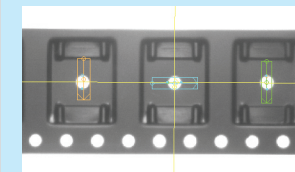
Accumulating years of machine vision hands-on experience, PPT VISION has developed numerous advanced algorithms to tackle challenging application needs.

IMAGE FILTERING



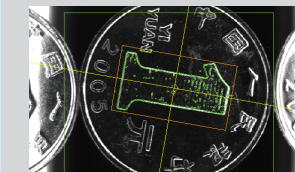
- Over 20 Image Filtering tools available:
 - Morphology
 - Average, Median, Gaussian
 - Light Leveling
 - Image Subtraction
 - Undistorted Image
 - and more...

LOCATING



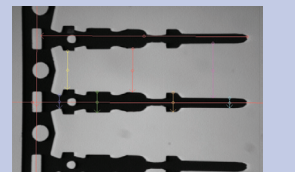
- Origin tool offers 4 methods of edge-point locating
- Pattern Find tools locate features with complex shapes
- Blob tool with centroid reporting
- Circular Pattern Find tool locates features in 360° rotation

PATTERN FINDING

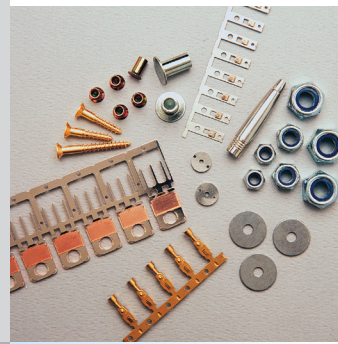


- Contour (edge-based) and Correlation (area-based) tools available
- Ideal for locating and inspecting features in 360° rotation
- Speed and accuracy modes available

MEASUREMENT



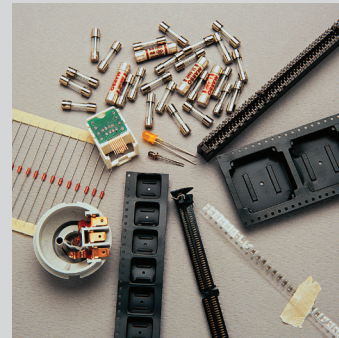
- Pixel (speed) or subpixel (accuracy) levels available
- Tools support multiple point and line fit measurements
- Circle tool measures radius and center in subpixel accuracy



- ### METALS
- Surface Scratch Inspection
 - Fastener Inspection
 - Robot Welding
 - Aluminum Sheet Inspection



- ### PLASTICS
- Mold Cavity Protection
 - Carrier Tape Inspection
 - Cap Inspection
 - Dial Print Inspection
 - Flash Inspection



- ### ELECTRONICS
- Stamped Pin Gauging
 - Passive Component Inspection
 - Lead Frame Inspection
 - Connector Inspection
 - BGA Inspection



- ### MEDICAL
- Catheter Inspection
 - Blister Packaging Inspection
 - Medical Vial Inspection
 - Syringe Component Gauging

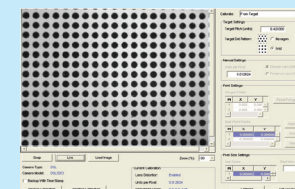


- ### PACKAGING
- Food Packaging Seal Inspection
 - Can Quality Inspection
 - Verification of Cosmetic Integrity
 - Date and Lot Code Inspection



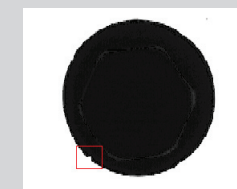
- ### AUTOMOTIVE
- Door Panel Glue Bead Inspection
 - Automotive Fuse Inspection
 - Spark Plug Quality Inspection
 - Robot Guidance
 - Bearing Assembly Inspection

CALIBRATION



- Global or individual tool calibration options available
- Supports dynamic calibration for applications with varying working distances
- 4 calibration methods available

DEFECT FINDING



- Contrast tool counts out-of-range pixels (defects)
- Blob tool filters defects based on size and shape
- Grayscale Template tool detects differences (defects) between current and trained images
- Extreme Difference tool detects subtle defects in varying backgrounds

CODE READING



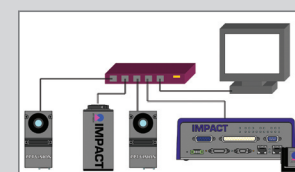
- Tools support 1D barcodes, 2D matrix and OCR capabilities
- OCR supports teachable font libraries

COLOR



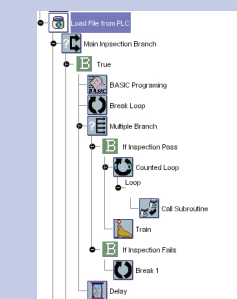
- Color tools include Blob, Checker, Image Sampling and Template
- Color image offers red, green, blue, yellow, magenta, cyan and grayscale formats for use by other tools

DATA COMMUNICATION



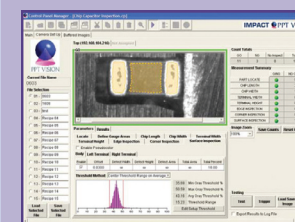
- Discrete I/O, serial, TCP/IP and Ethernet I/P available
- Supports HTTP, FTP and web serving protocols
- ActiveX controls available for 3rd party Microsoft® applications

LOGIC PROGRAMMING



- Branch tools allow for decision-making capabilities without scripting
- Task structure allows for better tool organization and run only when requested

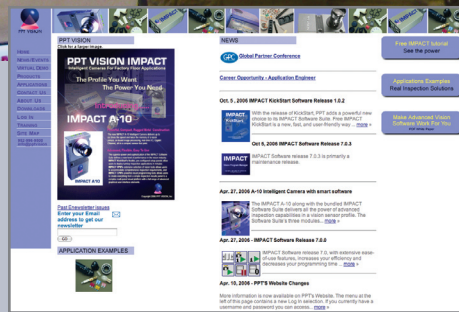
APPLICATION SPECIFIC



- Bump Find tool inspects for contour errors
- Character Contour Match tool for print quality inspection
- Peak Valley Find tool inspects helical shaped features
- Image Stitching tool combines multiple images into one for single camera applications

...AND THE LIST OF SOLUTIONS GOES ON...

Chances are, we have an already developed solution for your application. If not, we will work with you to customize a solution for your specific machine vision requirements.



www.pptvision.com

- **FREE** full-feature trial software
- **FREE** download product literature, technical specifications and drawings
- **FREE** online training material to do at your own pace
- **FREE** IMPACT application videos and sample programs
- **FREE** MV application evaluation

Basic - 1.5 days

- Hardware Options and Features
- Software Overview and Installation
- Developing an IMPACT Inspection
- Virtual Simulation and Testing
- Creating a Custom Interface
- **FREE**

Intermediate - 2 days

- High Accuracy Measurements
- Blob, Pattern and Pixel Part Locating
- Part Rejection
- Blob Analysis
- Pattern, Correlation, Contour and Template Matching
- Data Manipulation
- Data Matrix, OCR, CCM
- Filtering and Morphology
- Color Blob and Matching
- Custom HMI Building
- **FREE**

On-Site Training

- Customized for Your Application, Location and Schedule
- Contact PPT VISION Training Department for pricing

Global Authorized Partners

PPT VISION, together with its global network of certified distribution and integration partners, provides a level of training and technical support that is unmatched in the industry. This includes turnkey vision solutions, application evaluations and testing, vision system integration, validation and program conformance, HMI design, product training, installation and maintenance services, and technical support via phone and email.

We look forward to putting our machine vision training and support resources to work for YOU!

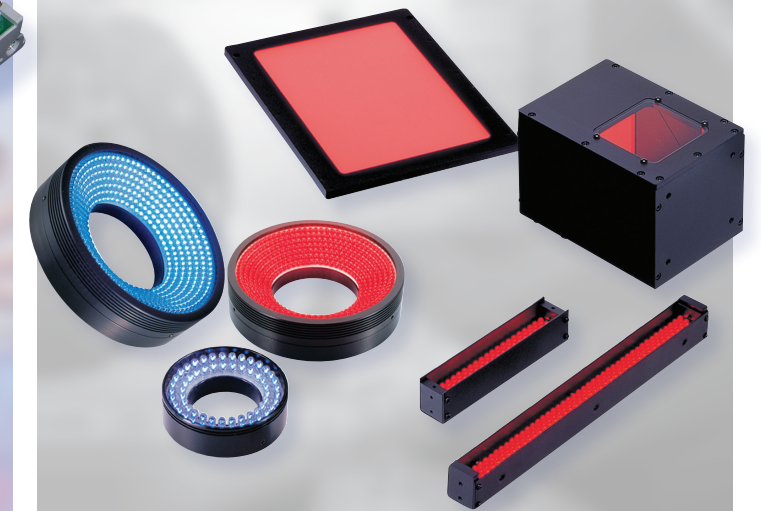


I/O Communication Products

- IMPACT standard I/O breakout boards
- IMPACT expansion I/O board; additional 8 in / 4 out
- PPT VISION is an authorized reseller for many of the industry's leading manufacturers of I/O and communication products; call for more information

Lighting Products

- IMPACT standard LED lighting products
- PPT VISION is an authorized reseller for many of the industry's leading manufacturers of machine vision illumination products, i.e. LED, fluorescent, xenon, halogen (fiber optic), laser, etc.; call for more information



Optics Products

- Standard, flat field and telecentric lenses available in C-mount and micro-lens formats
- PPT VISION is an authorized reseller for many of the industry's leading manufacturers of machine vision lenses and filters; call for more information

Other Accessories

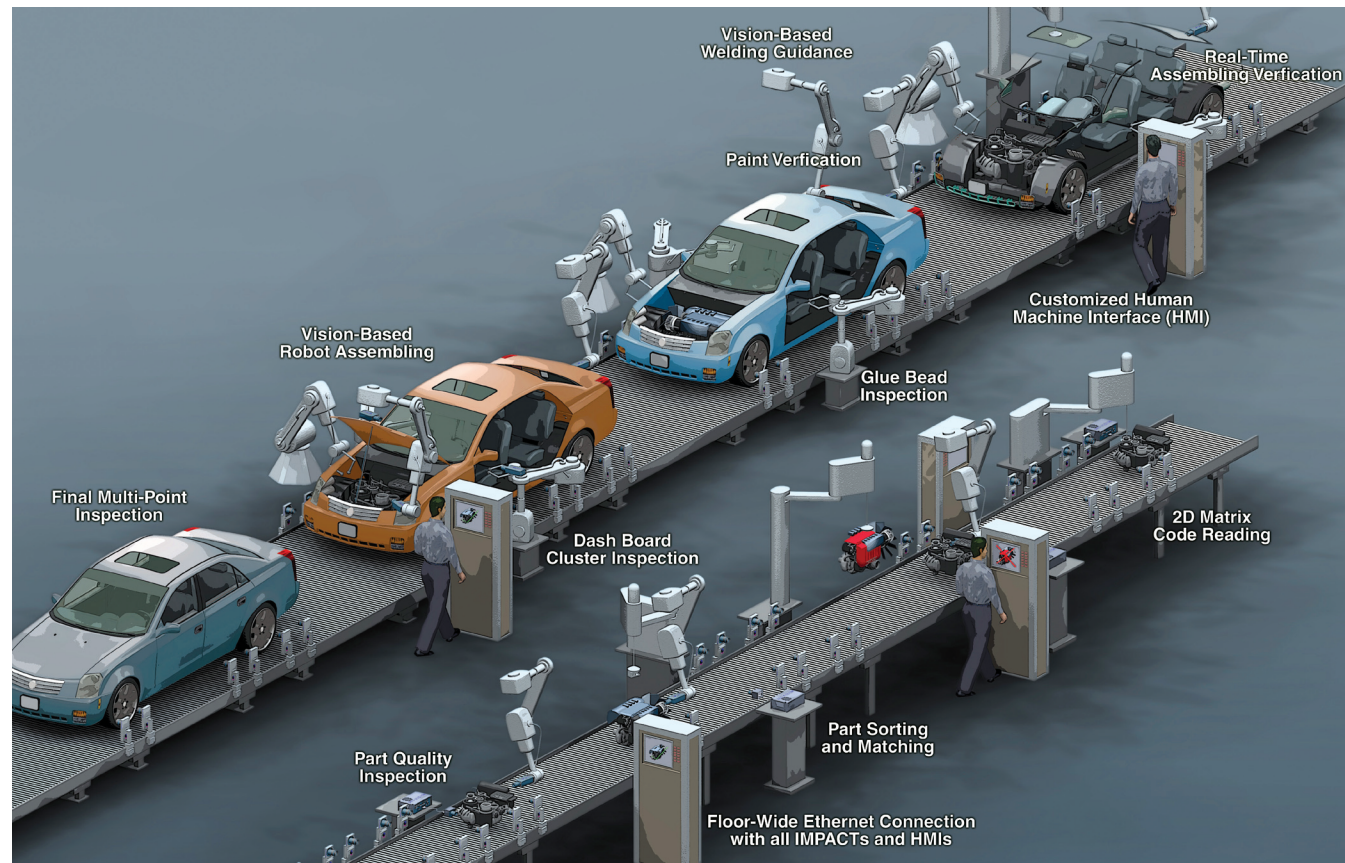
- Industrial PCs & Monitors
- CameraLink Cameras
- Camera Enclosures
- Custom & Hi-Flex Cables
- Lens Filters
- Wiring Services
- Lens Dust Covers
- Mounting Hardware



Call Us Today for Pricing & Delivery Information!

PPT VISION IMPACT™ Intelligent Cameras:

A Family of Machine Vision Products That Cover
All of Your Company's Inspection Needs



Contact PPT VISION or one of our partners today
for a FREE product evaluation and demonstration.



Intelligent Cameras for Factory Floor Applications

