

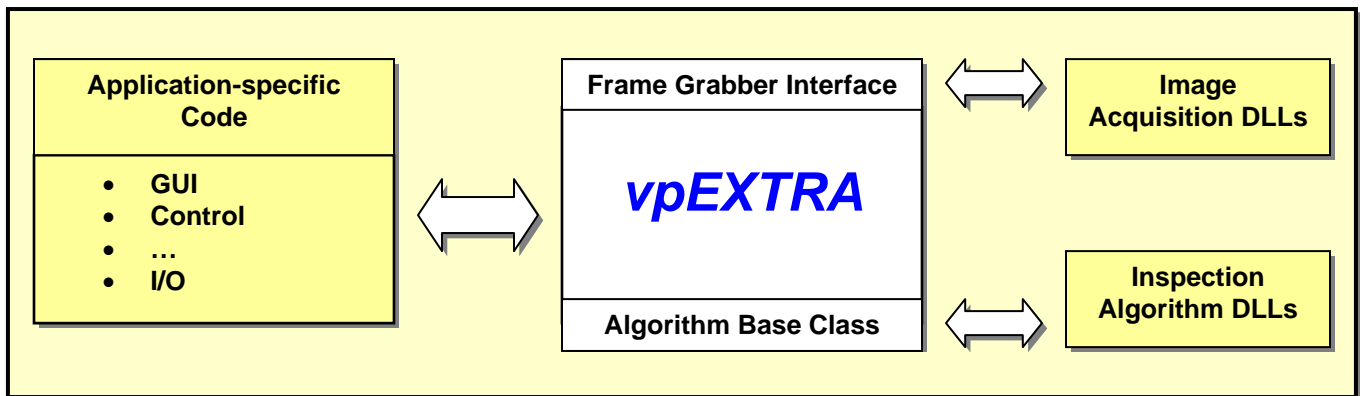
## vpEXTRA

### Open-architecture Machine Vision Engine for Cognex® VisionPro®

The **vpEXTRA** encapsulates the power and functionality of Cognex® VisionPro® into a reusable managed-code DLL that can be utilized to develop complex machine vision applications with just a few lines of code. This easy-to-use module can be added to your software, like any other referenced object, to provide your application with instant access to a complete machine vision engine.

- Works with any .net-supported high-level language such as C++, C# and Visual Basic
- Supports unlimited number of frame grabbers (from any suitable supplier) and cameras
- Built-in interface for Intrinsic, Extrinsic and Optical Calibration (linear and non-linear) of cameras
- Open-architecture for adding custom, user-developed inspection algorithms
- Ability to capture and analyze multiple images, even from different frame grabbers and cameras, to deal with demanding inspection algorithms
- Unlimited number of graphical display objects for showing the inspection images and results

Using the **vpEXTRA** is as simple as instantiating an instance and calling the supported methods to achieve the required functionality. An application may be as simple as capturing an image to find an object using the PatMax® tool, or as complex as acquiring several images (even from different frame grabbers and cameras) to perform a complex machine vision task, such as 3D-stereo for robot guidance. In fact, there is no limit to what inspections, or how many different types of inspections, can be performed.



The engine provides an open-architecture image acquisition module that can dynamically load external assemblies. This innovative approach enables users to develop a Class Library Assembly that implements our Frame Grabber Interface and thereby integrate any imaging hardware, including those supplied by other manufacturers than Cognex. As standard, the **vpEXTRA** comes with suitable assemblies for the Cognex 8500 series frame grabbers, as well as USB-driven cameras. The source code for these assemblies is supplied as a guide to the users for developing their own assemblies to deal with other suppliers. Of course, as a total-solution provider, we can develop the required software for your choice of hardware.

Analogue

Digital (TTL/RS644)

CameraLink™

IEEE 1394

USB 2.0

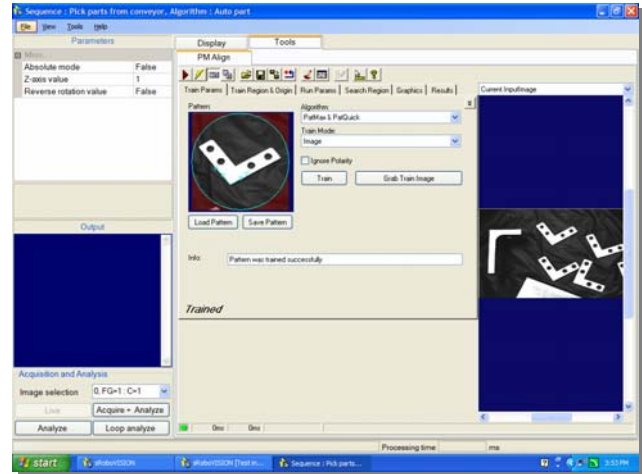
GigE VISION™



Software source

Custom design

Similar to the image acquisition module, the **vpEXTRA** provides an open-architecture approach for executing the inspection algorithms. The Base Algorithm Class offers a host of default functionalities that make the development of custom algorithms a breeze. Developers will simply create a new Class Library Assembly by deriving from the Base Class and implementing the required methods. This homogenous approach allows the engine to dynamically load all standard and user-developed algorithms during the startup phase. When the inspection setup file is loaded by the system, all algorithms are managed by the engine in a manner that is completely transparent to the user.



The **vpEXTRA** is a powerful tool that can be used to develop PC-based machine vision systems quickly and cost-effectively. Indeed, the development of a new system may involve only the GUI and image analysis routine. Hence, all other functionalities, such as dealing with image acquisition, calibration, management of user and system-dependant parameters, execution of algorithms, and so on, are available without developing any new code. As the result, users can take full advantage of the Cognex® VisionPro® product to tackle any demanding application.

System Requirements	
<b>Operating system</b>	Windows® XP Professional or XP embedded with Service Pack 2 or later Microsoft® .NET Framework 2 or later
<b>Development environment</b>	Any suitable high-level language development environment that supports .net such as C++, C# or Visual Basic
<b>Machine vision software</b>	Cognex® VisionPro® 4.4 with appropriate license

Optional Accessories	
<b>Optical calibration target</b>	Standard linear and non-linear calibration tools are available Custom tools can be fabricated to suit the required field of view size
<b>Software</b>	Custom image acquisition module and image analysis algorithms Computational modules for Intrinsic and Extrinsic camera calibration
<b>Industrial PC</b>	The <b>VISTA-P4</b> is a compact, wall-mounting high-performance PC that is ideal for industrial applications. The system can be pre-configured with your choice of image acquisition hardware/interface.



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