

# ROBOTICS AND MACHINE VISION

FOR INNOVATIVE INDUSTRIAL  
AUTOMATION SOLUTIONS

GUIDE



SCAN



PICK



INSPECT



Bluewrist offers innovative industrial automation solutions and products in the areas of robotics and machine vision for enhanced performance and production in manufacturing. Our systems allow users to monitor complex production processes via statistical controls while maintaining high quality throughputs. This goal is accomplished through our leading technology, competitive pricing, and highly effective customer support.

#### Software

- comXtream: Automation and communication engine
- SPCWorks: Dimensional data control and reporting
- KinOptim: All-in-one, 6 axis robot calibration
- ScanXtream: 3D point cloud processing and viewing

#### Products

- Dimensional Measurement
- Inline 3D Vision Inspection
- Robot Guidance
- Random Bin Picking

FLEXIBILITY



FUNCTIONALITY



PERFORMANCE



#### Head Office

Bluewrist Inc.  
75 Tiverton Court  
Markham, Ontario L3R 4M8, Canada  
Phone: +1.289.475.5211

#### USA Office

333 Jackson Plaza, Suite 200  
Ann Arbor, MI 48103  
USA  
Phone: +1.313.996.5211

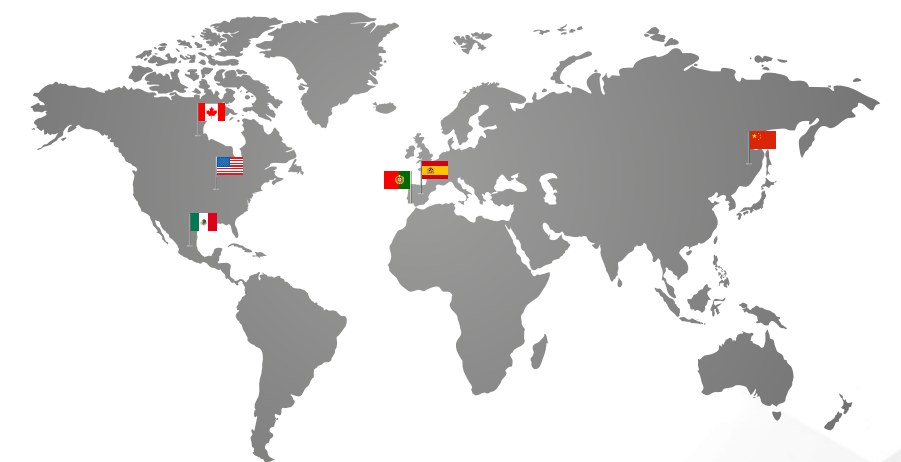
#### China Office

Bluewrist SLAC Vision Systems Co., Ltd  
Building 3, Tsinghua Automobile Industrial  
Park, 139 LianYang Road, Suzhou City, Jiangsu  
Province, 215011, China  
Phone: +86.150.3335.0618

#### Mexico Office

Bluewrist Mexico  
2925 Avenida Juarez Piso 22 Int. 2201-1 Colonia  
La Paz, CP 72160 Puebla, Puebla, Mexico

For more information visit our website  
[www.bluewrist.com](http://www.bluewrist.com)





### Automation and Communication Engine

This advanced software platform allows for communication and data exchange amongst industrial devices, including robot controllers, sensors, programmable logic controllers(PLCs), and third-party software packages.



### SPCWORKS

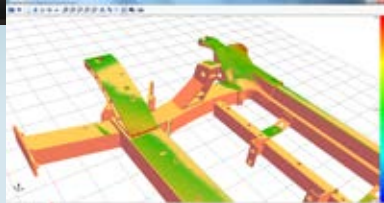
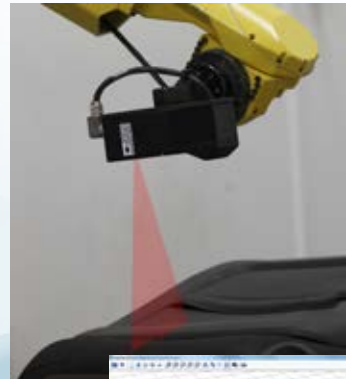
#### Dimensional Data Control and Reporting

Instantly collect and report dimensional and inspection data from in-line and off-line measurement systems, CMMs, or other external data sources to generate a variety of statistical reports for real-time quality control.

### KINOPTIM

#### All-In-One, 6 Axis, Robot Calibration

This calibration software is for robot volumetric accuracy improvement, temperature compensation, offline programming compensation, and continuous TCP monitoring.



### SCANXTREAM

#### Metrology-Grade 3D Point Cloud Processing and Viewing Software

Automatically process and analyze point cloud data compared to a known model (CAD or point clouds) with the ability to extract features and compare surfaces.



## ROBOT GUIDANCE

**EzRG** is a generic six-degree-of-freedom robot guidance solution using vision cameras to identify locations, and offering many configurations and user-frame calculation strategies.

#### Features

- Various user frame calculation methods (best-fit, 3-2-1 fixturing, formula interpreter)
- Unlimited number of custom user frames available for use
- User-friendly graphical interface allowing line users to modify offsets
- Averaging and history of user frames sent to the robots

#### Applications

- Door, hood, lift gate, roof, trunk lids and windshield insertion and installation
- Racking, de-racking, palletizing and de-palletizing
- Machining guidance (drilling, riveting, deburring, etc.)



## DIMENSIONAL MEASUREMENT



**Flexisight** is an automated measurement system offering 100% visual inspection and dimensional quality information of manufactured components.

#### Features

- Measurement of 3D and 2D features, including holes, slots, studs, surface points, edges, clips, gap, and flushness
- The camera can be mounted to a robot (typ. speed: 2.2 seconds/feature)
- Multiple cameras can be stationary mounted (typ. speed: <1 second/feature)
- Fully integrated with the line PLCs and robots for alarming and decision making
- Reporting interface with dimensional results, historical charts, and process performance
- Centralized database allowing remote access and data-sharing between systems
- Complete robot calibration solution to maintain system accuracy

#### Applications

- Body in white, underbody, doors, hoods and decklids, gap and flush
- Frames, suspension cradles and instrument panel beams

## ROBOT BIN-PICKING

**Flexipick** is an advanced bin-picking system allowing a robot to pick up parts randomly inside a bin, and present them to the assembly process.

#### Features

- Compares point clouds to the CAD model and returns all possible gripping configurations
- Typical system accuracy of ±0.5mm
- Short processing time (less than 2 seconds)
- Robust collision checks between parts and cell
- Easy recalibration of the sensor and gripper

#### Applications

- Casted, forged, stamped and machined parts
- Parts with complex or simple geometries: tubular, spherical, flat



## 3D VISION INSPECTION

**PreciScan3D Inspection Station** is a fully integrated plug-and-play, metrology-grade, non-contact 3D scanning and flexible measurement system for near-line, inline, or offline quality control.

#### Features

- **High resolution 0.1mm scanning accuracy** - Captures highly accurate 3D surface features for comparison against CAD models or GD&T datum reference frames.
- **Inspects and scans complex parts with high accuracy and repeatability** - Robot-mounted 3D laser scanner provides complete coverage of parts for generating detailed point cloud models for further analysis.
- **No safety barrier or custom designed cell required** - Collaborative robot designed to work alongside quality control staff near the production line.
- **Minimal integration and custom configuration** - Out-of-the-box, plug-and-play 3D scanning and inspection capabilities.



#### Applications

- 3D inspection of commonly manufactured components
- Surface defects, thickness, dimensional variation, surface profiles, and feature presence