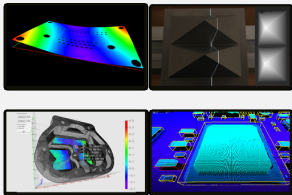# 3D Bundle

Bundle of Open eVision 3D Libraries

At a Glance

- Cost effective bundle of eVision's 3D libraries
- Includes Easy3D, Easy3DLaserLine, Easy3DObject and Easy3DMatch

Benefits

New feature in Open eVision

All Open eVision libraries are now also available for embedded ARM devices.

Easy3D Description

Easy3D is the foundation library of Open eVision's 3D libraries. It contains a set of functions to manage 3D Depth Maps, Point Clouds and ZMap objects. Easy3D is required when using any Open eVision's 3D library and is provided when purchasing Easy3DLaserLine, Easy3DObject, Easy3DMatch or the 3D Bundle.

Easy3DObject Description

Easy3DObject is a library able to automatically extract and measure 3D objects from a Point Cloud or ZMap. Easy3D is required when using any Open eVision's 3D library and is provided when purchasing Easy3DLaserLine, Easy3DObject, Easy3DMatch or the 3D Bundle.

Easy3DMatch Description

The Easy3DMatch library features alignment functions to find the exact pose (position and orientation) of acquired 3D objects using a reference model. This model can be specified as a reference point cloud or as a 3D mesh from CAD software. Easy3D is required when using any Open eVision's 3D library and is provided when purchasing Easy3DLaserLine, Easy3DObject, Easy3DMatch or the 3D Bundle.

Easy3DLaserLine Description

Easy3DLaserLine provides the necessary functions to implement a high-precision calibrated laser line triangulation setup. Easy3D is required when using any Open eVision's 3D library and is provided when purchasing Easy3DLaserLine, Easy3DObject, Easy3DMatch or the 3D Bundle.

Compatibility with 3D sensors

The Easy3D library is able to import data from third-party 3D sensors from Automation Technology, Azure Kinect, Benano, IDS Ensenso, Intel Realsense, Lucid Helios, LMI Gocator, Mech-Mind, Photoneo PhoXi, Shenzhen SinceVision (SSZN), Zivid and others. Point Clouds and ZMaps are managed efficiently and allow 3D processing and analysis to be performed.

3D Viewer

Use the 3D Viewer class of Easy3D to create an interactive 3D display. The 3D Viewer can display point clouds and 3D objects. It uses the OpenGL interface and requires a compatible display device.

Neo Licensing System

- Neo is the new Licensing System of Euresys. It is reliable, state-of-the-art, and is now available to store Open eVision and eGrabber licenses.
- Neo allows you to choose where to activate your licenses, either on a Neo Dongle or in a Neo Software Container. You buy a license, you decide later.
- Neo Dongles offer a sturdy hardware and provide the flexibility to be transferred from a computer to another.
- Neo Software Containers do not need any dedicated hardware, and instead are linked to the computer on which they have been activated.
- Neo ships with its own, dedicated, Neo License Manager, which comes in two flavours: an intuitive, easy to use, Graphical User Interface and a Command Line Interface that allows for easy automation of Neo licensing procedures.

All Open eVision libraries are available for Windows and Linux

- Windows 7 to Windows 10 x86 (32-bits) and x86-64 (64-bits)
- Windows 11 x86-64 (64-bits)
- Linux 64 bits (x86-64 and ARMv8-A) with a glibc version 2.18 or newer

Developed with the support of the DG06 Technology Development Department

Applications

Machine Vision for the Electronic Manufacturing Industry

- High speed image acquisition for AOI, 3D SPI, 3D lead/ball inspection machines.
- Very high resolution line-scan image acquisition for Flat Panel Display inspection and solar cell inspection

Machine Vision for the General Manufacturing Industries

- High frame rate image acquisition for inspection machines
- Line-scan image acquisition for surface inspection machines
- Line-scan image acquisition for textile inspection

Machine Vision for the Printing Industry

- High speed line-scan image acquisition for printing inspection machines

Video Acquisition and Recording

- High-frame-rate video acquisition for motion analysis and recording

Specifications

Software

Host PC Operating System	• Open eVision is a set of 32-bit and 64-bit libraries that require an Intel compatible processor with the SSE4 instruction set or an ARMv8-A compatible processor.
	• The Deep Learning Bundle is only available in the 64-bit Open eVision library.
	• Open eVision can be used on the following operating systems:
	  − Windows 11 (64-bits)
	  − Windows 10 (32- and 64-bits)
	  − Windows 8 (32- and 64-bits)
	  − Windows 7 (32- and 64-bits)
	  − Linux 64 bits (x86-64 and ARMv8-A) with a glibc version greater or equal to 2.18
	• Since Open eVision 2.6, discontinued support of:
	  − Windows Vista 32-bits Service Pack 1
	  − Windows XP 32-bits Service Pack 3
	  − Windows Embedded Standard 2009 32-bits
	• Remote connections
	  − Remote connections are allowed using remote desktop, TeamViewer or any other similar software.
	• Virtual machines
	  − Linux virtual machines are supported. Microsoft Hyper-V and Oracle VirtualBox hypervisors have been successfully tested.
	  − Windows virtual machines are not supported.
	• Minimum requirements:
	  − 2 GB RAM to run an Open eVision application
	  − 8 GB RAM to compile an Open eVision application
	  − Between 100 MB and 2 GB free hard disk space for libraries, depending on selected options.

APIs	• Supported Integrated Development Environments and Programming Languages:
	  − Microsoft Visual Studio 2008 SP1 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2010 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2012 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2013 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2015 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2017 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2019 (C++, C#, VB .NET, C++/CLI)
	  − Microsoft Visual Studio 2022 (C++, C#, VB .NET, C++/CLI)
	  − QtCreator 4.15 with Qt 5.12
	• Since Open eVision 2.5.1, discontinued support of:
	  − Borland C++ Builder 6.0 update 4 (C++)
	  − CodeGear Delphi 2009 (Object Pascal)
	  − CodeGear C++ Builder 2009 (C++)
	  − Microsoft Visual Studio 6.0 SP6 (C++, Basic)
	  − ActiveX API
	• Since Open eVision 2.4.1, discontinued support of:
	  − Embarcadero RAD Studio XE4 and XE5 (C++, Object Pascal, 32 bits only)

Ordering Information

Product code - Description	• 4185 - Open 3D Bundle for USB dongle • 4235 - Open 3D Bundle for PAR dongle • 4285 - Open 3D Bundle for soft-based licensing • 4335 - Open eVision 3D Bundle
Optional accessories	• 6512 - eVision/Open eVision USB Dongle (empty) • 6513 - eVision/Open eVision Parallel Dongle (empty) • 6514 - Neo USB Dongle (empty)

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