

Industrial Vision Sensor

Reference Design

Features:

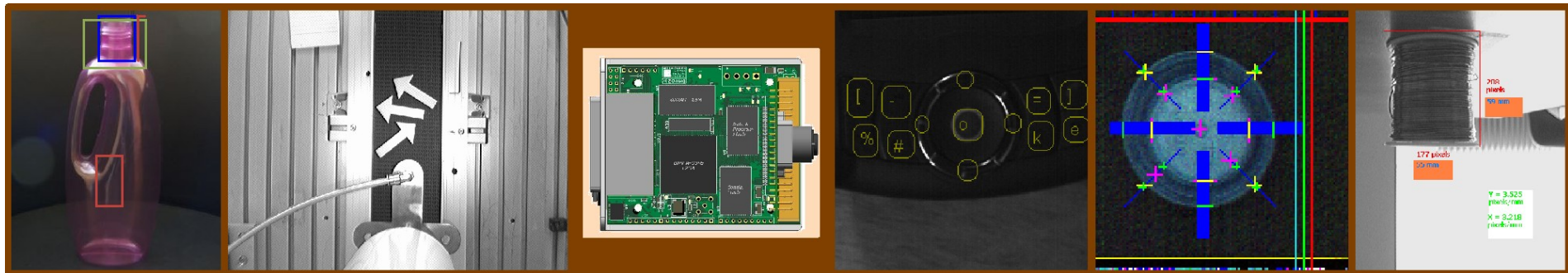
- Color: Full RGB, YUV 4:2:2, Monochrome
- Resolution: up to 4Mpixels
- Speed: 10-90 frames/second
- Low Component and System Cost
- Full Intergrated Solution – No need for Host
- Connects to Ethernet/RS232/GPIO
- Available as:
 - Information pack: Design Description
 - Evaluation kit: Hardware with pre-instaleld SW
 - Development Kit: Source Code & Schematics

Target Applications (templates available):

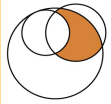
- Object Inspection & Counting
- Simple Measurments
- Guidance of Robotic Arms

Components:

- CMOS Camera Head
- OLED Display
- Power-over-Ethernet Module
- All-in-one Vision FPGA with:
 - Sensor Interface
 - BLOB extraction, Object Alignment etc accelerators
 - Two RISC Cores (one for Vision, one for System)
 - Ethernet MAC
 - Display Driver with Graphics Accelerator
- License-Free Software:
 - Linux
 - Display Drivers
 - Simple GUI
 - Basic Vision Libraries
 - Application Configuration and Control



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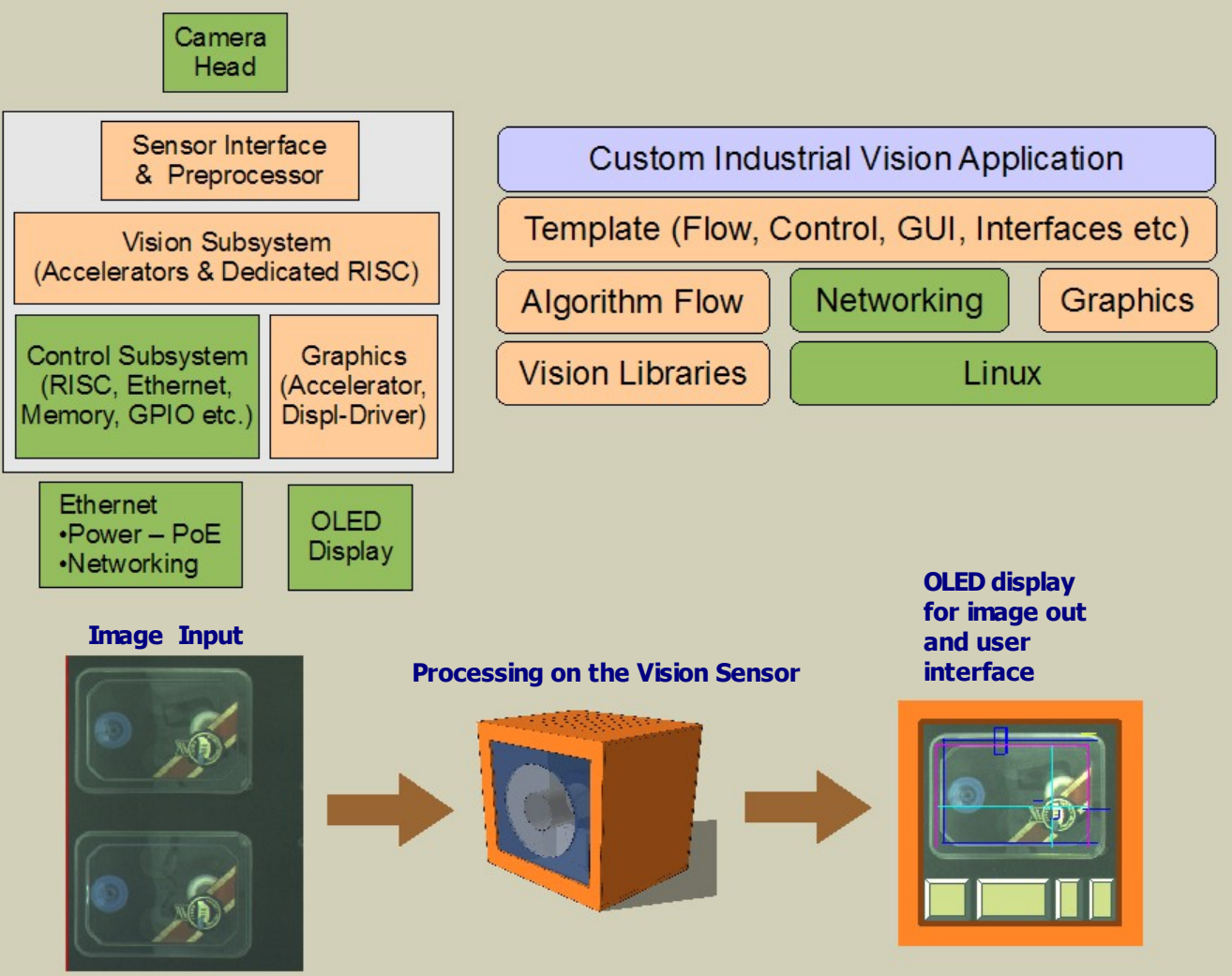


Hardware:

The main part is an FPGA which contains all the functional units. Standard modules are used for:

- Image Input
- Ethernet
- Power (PoE)
- Display

These parts can be replaced with others for various application needs.



The system will see the items that need inspection via the CMOS image sensor.

Software:

The software part is based on a combination of open-source (for the operating system and the network stack) with custom (but still royalty free) libraries to take advantage of the HW resources. Templates make it easy to create your own custom vision application.

The result can be seen on the OLED display. The user can adapt and configure the parameters of inspection.