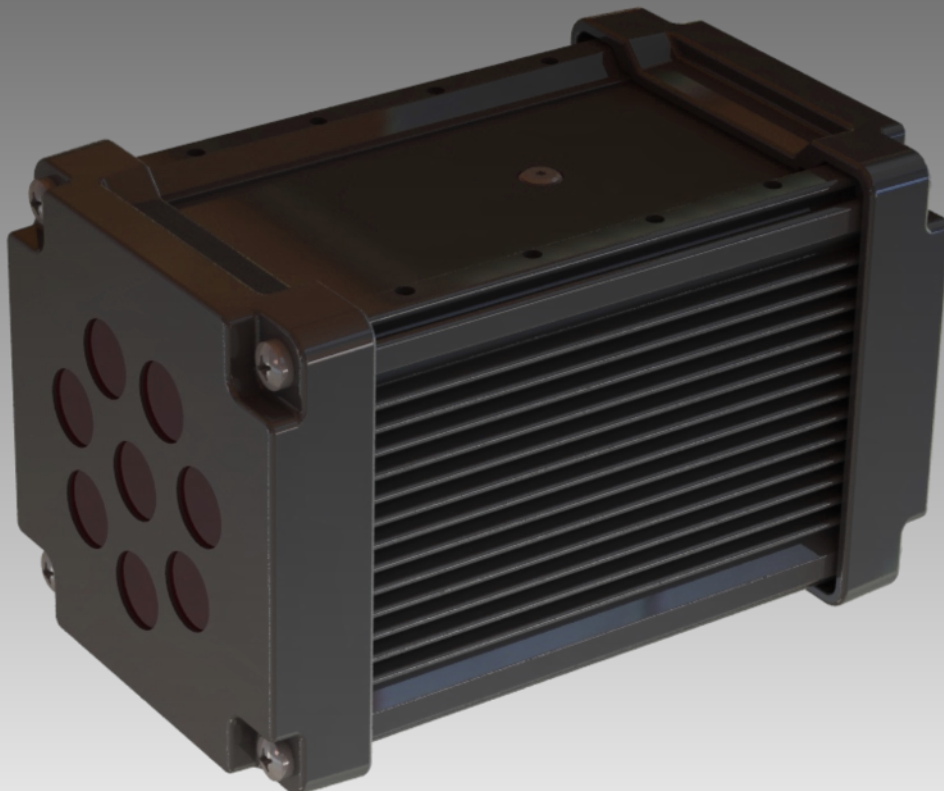


3D time-of-flight cameras

Fast, simple 3D

Streaming point cloud output
3D plus active IR image acquisition
Total package integration
Easy industrial deployment

 **StarForm**
SWIFT 



Advantages

STREAMING POINT CLOUD OUTPUT

The StarForm Swift is factory configured to directly output a calibrated 3D point cloud, allowing the user to be working with metric 3D data in seconds. Fast frame rates can be used to track dynamic scenes in 3D, or accumulate static scenes to improve precision,

3D PLUS ACTIVE IR IMAGE ACQUISITION

Choose to output a 3D point cloud, raw range data, an active IR image, or any desired combination, giving the user freedom to work with the best data for any given application.

TOTAL PACKAGE INTEGRATION

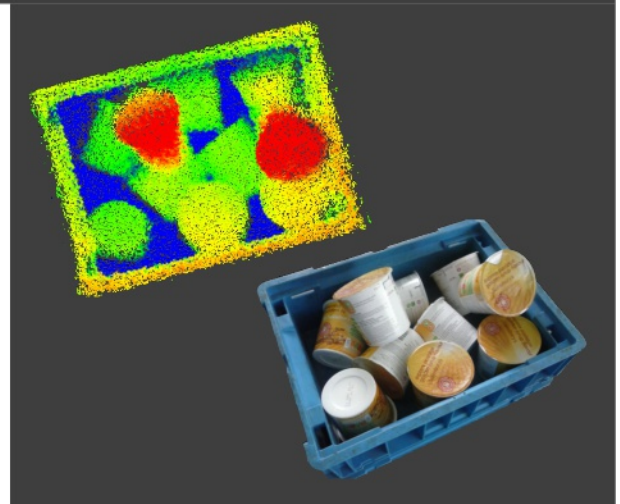
Sensors, illumination, processing and power are contained in a ruggedized industrial housing. Infrared filters prevent unwanted light from reaching the sensor whilst the GPIO interface enables synchronization of the camera.

EASY INDUSTRIAL DEPLOYMENT

Off-the-shelf integration software tools make interfacing to industry standard machine vision software packages quick and simple. The industry standard GenICam compatible interface and GigEVision connectivity makes hardware integration easy to achieve.

Preliminary Specifications

RESOLUTION	640 x 480 pixels
FRAME RATE	30 fps
RANGE	6 m
FIELD OF VIEW	47° x 37° (H x V)
ILLUMINATION	7x LEDs @ 850 nm
DEPTH PRECISION	1 cm (typical)
OPTICAL FILTER	integrated bandpass
OUTPUT DATA OPTIONS	xyz point cloud, range, active IR
INTERFACE	GigEVision and GenICam compatible
POWER	12 VDC / 15 W
SOFTWARE	C++ SDK
HOST PC	Windows 7/8/10



Typical Applications

LOGISTICS - PALLET MANAGEMENT



High resolution depth images ensure packages and pallets can be rapidly and accurately sorted and sized. An active IR image can be captured from the same sensor for tracking, manifest, and security purposes. Sensor systems mounted on a forklift can allow for weight and dimensions of target objects to be captured in real time, increasing the efficiency of the process flow.

LOGISTICS - PALLETIZATION / DEPALLETIZATION



Increasing the flexibility and efficiency of robot palletising with depth information is particularly suited to mixed load operation. Absolute dimensions and positions can be acquired and used for space optimization routines, improving the use of space in freight transport and efficient unpacking operations.

CARTON/OBJECT - DIMENSIONING AND PROFILING



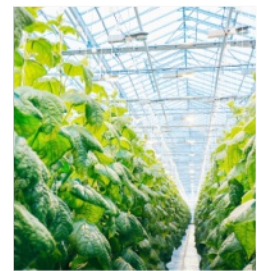
Multiple objects can be dimensioned or sized at the same time, allowing increased throughput and utilization. This approach provides detailed XYZ orientation and minimum bounding box information about each object. It is also possible to use the active IR image to check on the condition of the carton for tracking or manifest purposes.

FACTORY AUTOMATION - COMPLETENESS CHECK



Combining 3D and active IR images can be used to create robust completeness checking systems. Check that each outbound packing container is fully loaded with the correct number of cartons or items before sealing and avoid costly customer returns.

AGRICULTURE - GROWTH MANAGEMENT



Precision agriculture is an exciting area of growth for the automation supply industry. Increasing global population and a renewed focus on resources is driving novel solutions to increase efficiency of production. Here a combination of 3D and active IR imaging is used to identify the size and location of each piece of fruit for robotic harvesting.