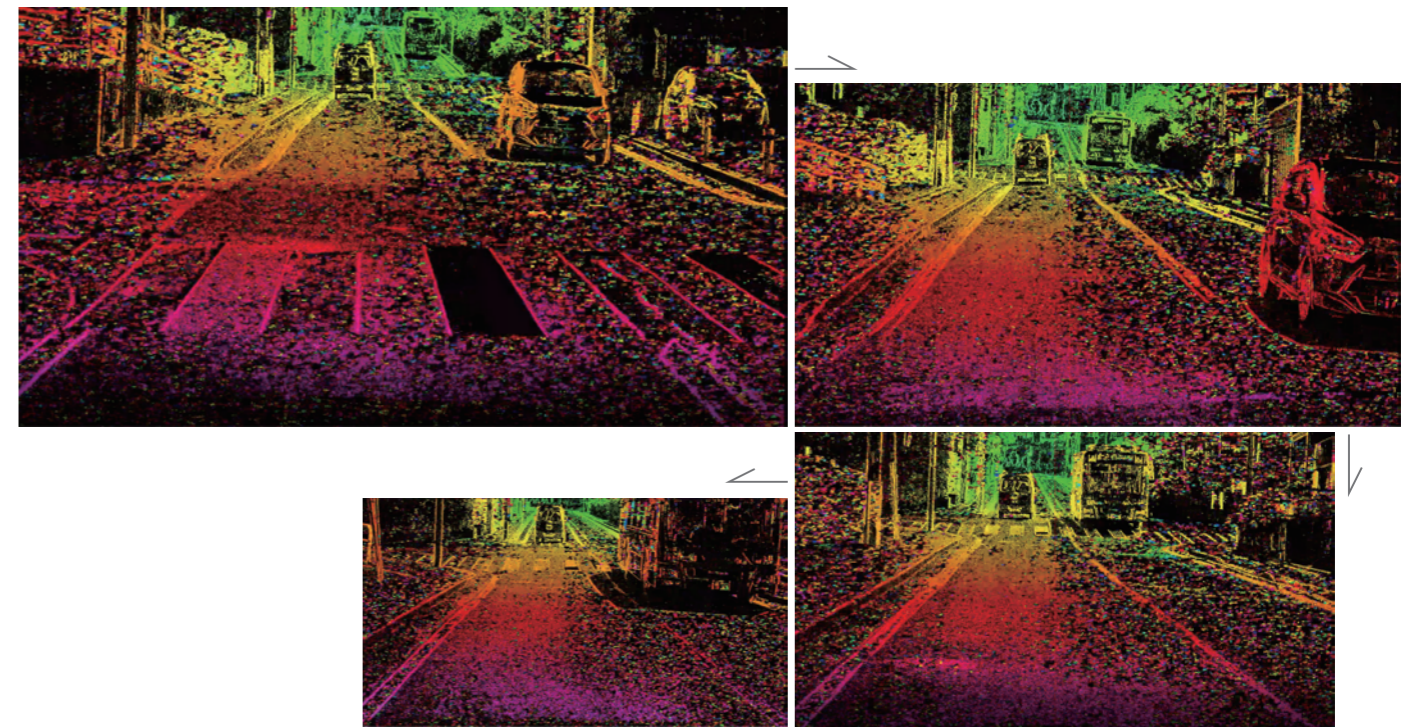


ITD Lab Intelligent Stereo Camera & Company Brochure



ISC-100VM, ISC-100XC We sell the evaluation unit as a product.

To provide each customer a chance to experience our product and achieve greater understanding of the performance of ITD Lab's Intelligent Stereo Camera, we sell the evaluation unit as a product. Apart from this evaluation unit, the ITD Lab's Intelligent Stereo Camera Algorithms are applicable to various resolutions, baseline lengths, and viewing angles of various cameras or image capturing devices, and allow producing an optimum stereo camera according to your needs.



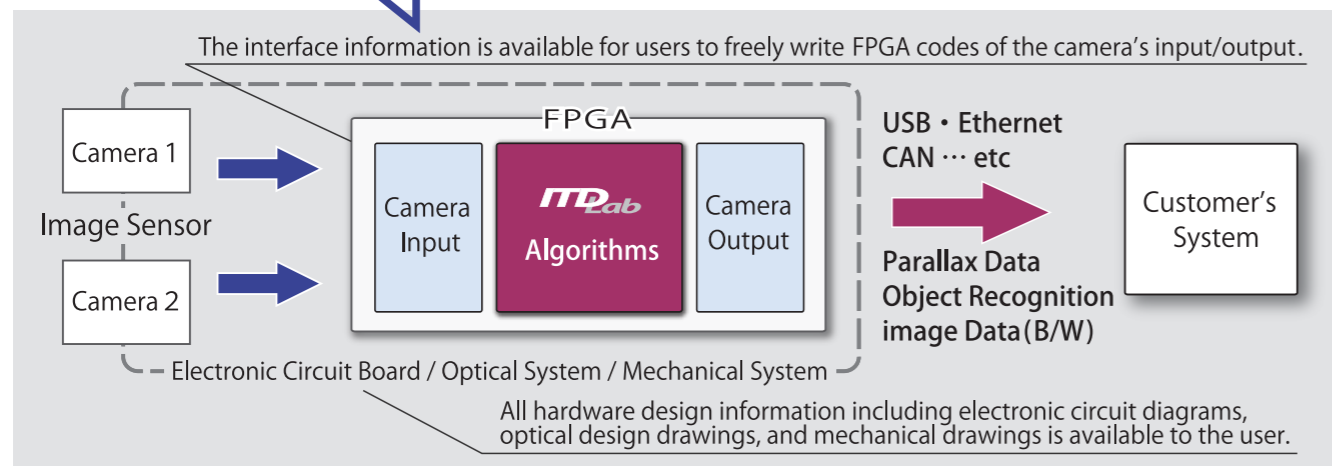
ITD Lab Corp.

4259-3 W-401 Nagatsuta-cho, Midori-ku,
Yokohama-shi, Kanagawa 226-8510 Japan
Tel : +81-45-532-5281
URL : www.itdlab.com
E-mail : sales@itdlab.com

ITD Lab Corp.

We sell the license of the algorithms for our Intelligent Stereo Camera.

We provide consultation support for customizing the design and manufacturing of our Intelligent Stereo Camera according to your needs.

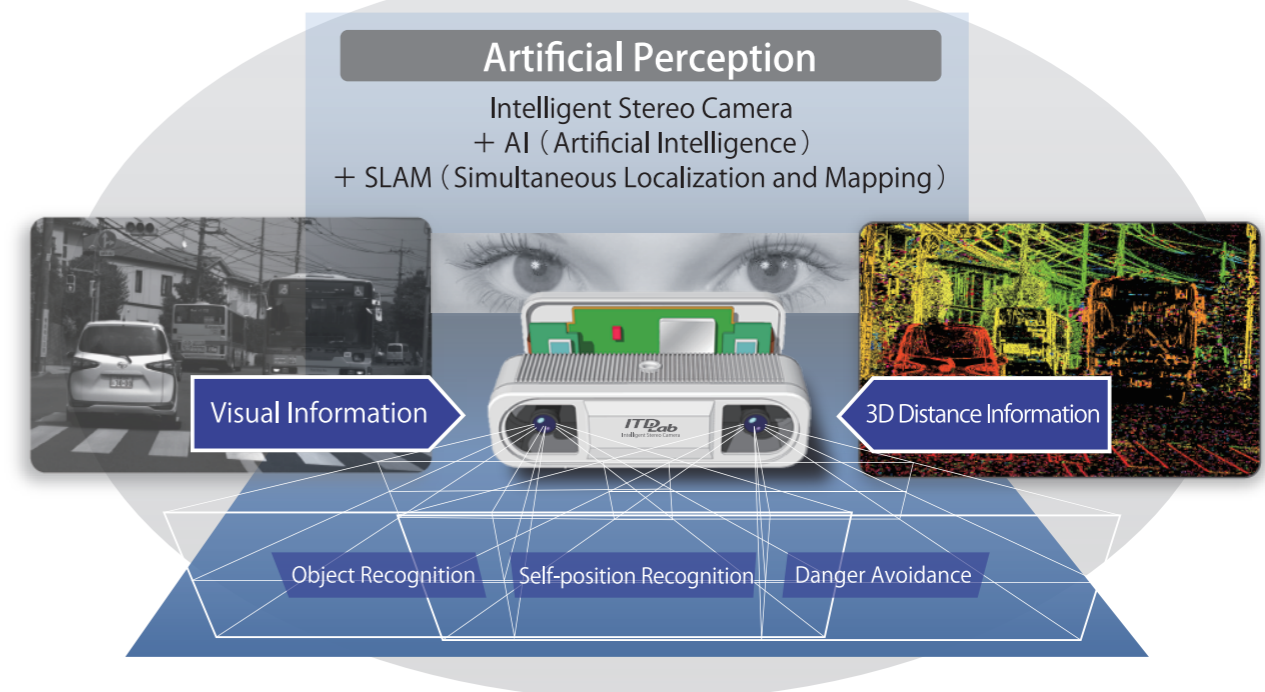


What's the Goal of Intelligent Stereo Camera...

Artificial Perception = ISC + Deep Learning + Simultaneous Localization and Mapping

When we think about human "perception", intelligence acquired through learning (Artificial Intelligence) is not enough to represent it; it is necessary to properly handle "inputs through the five senses", especially "visual information" that is believed to account for 80% of all information.

"Visual information" corresponds to "stereo vision" (that is, three-dimensional (3D) distance information) of human visual perception. ITD Lab addresses this fact faithfully, and this intension is reflected in "the feature of our technical development". ITD Lab considers autonomous driving of automobiles as a type of various Artificial Perception systems.



What is Intelligent Stereo Camera ?

- Intelligent Stereo Camera is a stereo camera with ITD Lab's algorithms executing parallax calculation, object recognition, and full-automatic calibration.
- Intelligent Stereo Camera outputs parallax data, B/W original image data, and object information. Among these outputs, parallax data (i.e., distance information) is allowable to increase the level of density (any possible "high density") corresponding to the sensor resolution.

What are the key features of Intelligent Stereo Camera ?

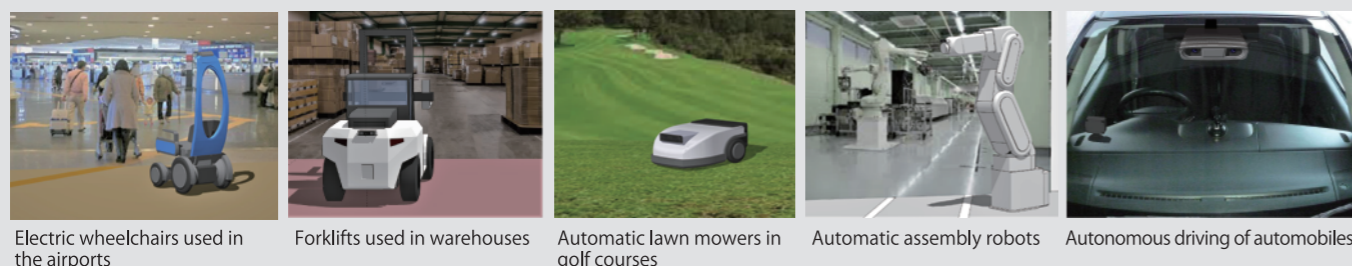
- Full-automatic calibration function releases users from awkward calibration works.
- The clear outline of a captured object is detected.
- Excellent high-speed response makes the camera's frame rate available from 60FPS to 160FPS.
- Seamless algorithm is applicable for any camera resolutions, baseline lengths, and viewing angles. The stereo camera is optimizable to meet the needs in various fields.

Above all, this Intelligent Stereo Camera is a result of technical improvement over 30 years since the invention of Subaru's EyeSight with extremely simple algorithms.

With the algorithms, the Intelligent Stereo Camera has achieved to execute all calculations with a single FPGA chip, increased the degree of freedom in design, and reduced the size of the camera's housing.

Field of Application

- Autonomous driving of motor vehicles, AGVs, construction machinery, agricultural machinery, and ships; mobile robots, assembly robots, and surgical robots; safety monitoring systems, etc.



Business Model

- All hardware design information including electronic circuit diagrams, optical design drawings, and mechanical drawings is available as Reference Designs.
- ITD Lab's algorithms of the camera are written in the FPGA codes and provided in the form of a ROM chip.
- The interface information is available for users to freely write the FPGA codes of the camera's input/output.

ITD Lab Corp. Establishment : May 6, 2016
Capital : 321.7 Million JPY
Address : 4259-3 W-401 Nagatsuta-cho, Midori-ku,
Yokohama-shi, Kanagawa 226-8510 Japan

Keiji Saneyoshi 1981 : Completed his doctoral course of Physics of Tokyo Institute of Technology
Chairman & CTO 1988-1998 : Subaru, Fuji Heavy Industry,
1998-2016 : Associate Professor of Tokyo Institute of Technology
2016 : Founded ITD Lab Corp.

Takao Shigaki 1982 : Completed his master's course of Physics of Waseda University
President & CEO 1982-2008 : Senior Manager, Int'l Marketing, Fujifilm
2008-2016 : President & CEO, KGK Corp.
2016 : Founded ITD Lab Corp.