Prosilica: 2008 Report and the Year Ahead

2008 was a year of significant growth and changes for Prosilica as the company welcomed additional employees, launched an impressive range of new products and was acquired by Allied Vision technologies (AVT), the market leader in FireWire cameras.

A growing team

As a result of market growth, Prosilica hired additional employees throughout 2008 to reinforce its marketing, production, operations and engineering teams to continue providing excellent customer service and develop new products to meet with customer demand and reinforce its position as the leading manufacturer of GigE Vision compliant cameras.

44 new cameras launched

In 2008, Prosilica added 44 new products to its ever increasing range of Gigabit Ethernet cameras which now counts over 90 monochrome and color models. New additions include the HD resolution GE1910, the fast Megapixel GE1050 camera, and two new series, the GB-Series for OEM applications (the very first single-board cameras with gigabit Ethernet technology in the market) and the periscope-style GS-Series for industrial and microscopy applications. Our full range of cameras can be viewed on the Prosilica web site at http://www.prosilica.com/products/allmodels.html

Prosilica's acquisition by AVT

The response from customers following Prosilica's acquisition by AVT in July 2008 has been extremely positive. In early November, Prosilica and AVT joined forces to exhibit their full range of cameras under one booth at the international VISION 2008 show in Stuttgart, Germany where a total of eight new products (FireWire and GigE) were launched at the show.

The year ahead

Prosilica expects further growth in 2009 and will be adding more GigE Vision compliant cameras to an already wide range. Our engineering team is already working on developing new features for our cameras as well as new software.

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GC650C in DARPA Urban Challenge

The DARPA Urban Challenge
The Defense Advanced Research Projects Agency (DARPA) Urban Challenge was created in 2004 to promote the development of robotic vehicles following a US Congressional mandate. The latter stipulates that "it shall be a goal of the Armed Forces to achieve the fielding of remotely controlled technology so that by 2015 one third of operational ground combat vehicles are autonomous in order to keep war fighters out of harm's way".

The 2007 Urban Challenge held at a former Air Force Base in Victorville, California featured unmanned vehicles operating in a mock 60-mile city environment. Competing vehicles are required to execute simulated military missions including check points, supply missions and obstacles. All participating vehicles navigate through the course aided by various sensors and positioning systems located on the car, and without a driver or the use of a remote control.

Sting Racing team
The College of Computing at Georgia Tech in Atlanta together with the Science Applications International Corporation (SAIC) entered the race with their fully autonomous vehicle, Sting 1. Sting 1 is a

***Sting 1**, fully autonomous vehicle with sensors - Copyright SAIC 2007*

Close-up of the two Prosilica GC650C cameras inside weatherproof housings on either side of the car - Copyright SAIC 2007

high-end Porsche Cayenne SUV chosen for habitat space, power and its many built-in automation and computer controls. The vehicle was retrofitted for complete computer control of functions such as steering, throttle, brakes, lights and windshield wipers. Upgrades to allow the vehicle to run autonomously included:

- Eight PCs located in the trunk of the car and each dedicated to run different functions including road following and obstacle detection.
- GPS and inertial navigation system to enable the car to identify its position on the course.
- Six cameras to enhance the robot's vision including two Prosilica GC650C for lane tracking.
- Ten laser range finders to help the car find its way on the course.
- Six radar units for collision warning.

Prosilica GC650C for lane tracking

The Prosilica GC650C is a fast ultra-compact VGA camera with excellent image quality and sensitivity. Several factors were crucial in its selection: small size, flexibility, reliability and GigE interface for simplified integration and fast data transmission.

Both cameras were installed inside a weatherproof housing on either side of the car and facing front. The two GC650C were used to provide lane tracking information for Sting 1. Engineers programmed several models for various types of roads: straight, curvy, and single

***Sting 1's brain** - 8 PCs located inside the trunk - Copyright SAIC 2007*

to four lanes. As it moves, the vehicle analyzes the images provided by the Prosilica cameras and matches the information to a road model to adjust its trajectory in order to drive in the middle of the lane. The cameras were set to image continuously over the duration of the course. The image data was transferred via Cat-5e cable to a single computer for on-board processing and analysis. The software was programmed using Java and C++. Six of the PCs were used to process the information received from the various sensors while the other two acted as servers to send commands to the car.

» **For further information**

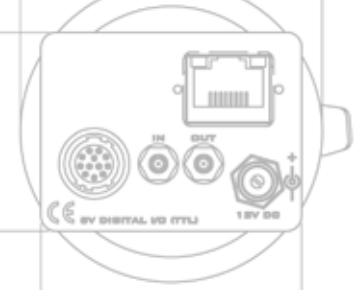
Prosilica GC650C
http://www.prosilica.com/products/gc650.html

Sting Racing
http://www.sting-racing.org/

Georgia Tech – College of Computing
http://www.cc.gatech.edu/

SAIC
http://www.saic.com/

DARPA Urban Challenge
http://www.darpa.mil/GRANDCHALLENGE/



GC1290 - Fast Ultra-Compact Camera with ExView Sensor

The Prosilica GC-Series are ultra-compact and high performance general machine vision cameras. The GC-series currently offer 27 models ranging from VGA to 5 megapixels resolution and capable of operating at up to 197 frames per second at full resolution depending on the model (GC640). Measuring only 33 x 46 x 33 mm (GC750), the popular GC-Series are the smallest GigE Vision compliant cameras in the world.

GC1290: 1.25 Megapixels, 32 fps
The economically priced GC1290 is a 1280 x 960 resolution camera that incorporates the high-quality 1/3" CCD ExView HAD progressive scan Sony ICX445 sensor providing excellent monochrome and color image quality. The Exview HAD technology offers improved light efficiency, high sensitivity, low dark current, low smear and excellent anti-blooming. The camera runs 32 frames per second at full resolution and even faster using Area of Interest Readout (ROI).

The GC1290 performs extremely well in applications requiring near megapixel resolution at 32 fps including industrial inspection, machine vision, ophthalmology, aeronautical and aerospace, public security, surveillance, traffic imaging, and OEM applications.

Thanks to its GigE Vision compliant interface, this “plug-and-play” camera can be operated in multi-camera applications at high transfer data rates over standard Ethernet cables up to 100m long (Cat5e type), or up to tens of kilometres using fibre optics.

» **For further information:**

GC1290
http://www.prosilica.com/products/gc1290.html

Request a quotation:
http://www.prosilica.com/sales/rfq.html

GC1290 - 3D Drawing
http://www.prosilica.com/support/solid_models.html

GC1290 Camera Features

- Pixel binning
- Area of interest readout
- External trigger and sync I/O
- Auto-iris control
- RS-232 peripheral port
- Exposure, gain and offset controls
- Non-volatile configuration memory
- Event recorder capability
- Pre-trigger recording
- Programmable strobe functions
- Multicasting
- Configurable IP addresses
- Autoexposure controls
- Auto white balance controls.
- And More …

Prosilica Introduces ...

Susie Singh
Operations Administrator

Prior to joining Prosilica in December 2008, Susie was self-employed doing systems administration.

Susie will work as part of the Operations team to handle RMA processing and service communications.

We are recruiting:

Sales
- Technical Sales Engineer

Operations
- System Administrator

» **To view the full job descriptions and to apply, please visit: http://www.prosilica.com/company/jobs.html**

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Very rugged

GS-Series: Periscope Type GigE Vision Cameras

Our cameras are designed and manufactured in-house to deliver a more robust and integrated product that meets the highest quality standards. Our products are noted for their high performance, ultra-compact size, light weight, fast frame rates, wide range of resolution (from VGA to 16 megapixel), advanced triggering, sophisticated controls, industrial ruggedness, rich set of camera features and extreme versatility.

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