

A Company Scales Up

Gerhart Restructures Business Introduces Industrial Gas Technologies



A CryoGas International Special Report

The Gerhart Scale Corporation (Gerhart) (www.gerhart.com) began as an industrial scale distributor that supplied the transportation and manufacturing sectors. For the industrial gas sector, Gerhart's scales service highway- and plant-located truck scale systems for merchant bulk weight and fill control systems for CO₂ and liquid argon railcars.

Founded in 1929 by Max Gerhart in South River, NJ, Gerhart has been servicing industrial and laboratory weighing scales for over 80 years. Gerhart was an early developer of automated, on-scale tanker filling scale systems. These systems allow the automation of filling tankers while collecting data. Today, from its Allentown, PA headquarters, the Company continues to provide scales as well as a host of other related products and services to a broad range of industries.

In this article, we examine how Gerhart has taken its original scales business and developed it into a comprehensive provider of sophisticated weighing systems, calibration equipment, repair services, systems integration, automation, instrumentation, mechanical contracting, construction services, software, and custom-engineered process solutions.

During the 1970s the market shift from mechanical to digital scales proved difficult for the Company, and in 1983 Gerhart was purchased by the Cattell family. Under the leadership of Tony Cattell, previously Chief Engineer for Fairbanks Scales, Gerhart transitioned from a business limited to mechanical scales distribution to an operation focused on more creative weighing systems solutions. Under Cattell, Gerhart also began to develop more integrated material handling systems that combined weighing with other phases of materials input, processing, and delivery for a wider range of manufactured products. These more sophisticated systems allowed Gerhart to service a broader group of applications and markets, such as chemicals, plastics, pharmaceuticals, and food processing, which required integrated and automated weighing systems design. For example, Gerhart developed portion-controlled weighing systems for food freezing with liquid nitrogen (LIN) and liquid CO₂.

Gerhart's original scale business also led the company into new process systems, such as lab calibration equipment and high-tech weight measuring devices that are required as

part of increasingly complex process control systems. For example, Gerhart was one of the first distributors and service providers for the Sartorius's digital scale for high resolution mixing of specialty gases by weight, including for explosive manufacturing environments.

According to Stuart Cattell, Gerhart's current President and son of Tony Cattell, "Whether our customers have requirements for scales or mass flow control, automation of load-out systems has proven to be one of Gerhart's strongest offerings."

Gerhart Systems and Controls

In 1998, Tony Cattell realized that Gerhart needed to establish a special group to handle the increasing complexity and growing demand for process control systems design and fabrication. He formed Gerhart Systems and Controls Company (GSC) to focus on expanding opportunities for more accurate and automated bulk powder, liquid, and gas handling systems.

As part of GSC's expanded capabilities and strategy, Gerhart devoted much of its skill base to developing data acquisition equipment and integrating software into its material handling systems. GSC's products and services are aimed at market demands for real-time feed of operating data, output performance data, and the analysis of the two within business enterprise, activity-based control systems. Stuart Cattell notes, "For over 15 years, we have been providing customers with systems integration, process control, data collection, and reporting through batch controllers, formulation, and PLCs (programmable logic controllers). All of Gerhart's engineering, programming, and manufacturing is done in-house, which allows customers to ensure the product they bought is the product we deliver."

Cattell continues, "We have our own panel shop that allows us to build customer-specified panels, or to manufacture panels for our own systems designs. We also have a team of programmers, which allows us to do our own



Gerhart company headquarters in Allentown, PA

in-house programming of PLCs and other controllers. In addition, Gerhart has an in-house ISO/IEC 17025 certified metrology lab that is capable of testing and calibrating mass, temperature, pressure, and vacuum. Our recently installed specific gravity compensated Dead Weight Tester allows us to calibrate not only digital and bourdon tube process gauges, but also gauges used to test Test Gauges. Our new Dead Weight Tester has a performance range of from 30 inches of mercury to 15,000 psig with accuracies of 0.025 percent of indicated value (1/40th of a percent).” (See “Gas Technologies Gets Tester,” *CGI*, July 2010, p. 12.)

Gerhart Gas Technologies



In 2008, Stuart Cattell and Jim West, Jr. decided to form Gerhart Gas Technologies (GGT). Jim West, Jr. has been associated with Gerhart as a customer for many years. Having long-standing experience in serving the industrial gases industry, Cattell and West decided to combine their background performance and experience to develop “next generation” industrial, cryogenic, and medical gas handling equipment. Gerhart’s capabilities and well-established infrastructure appealed to West’s desire to work on project development in an atmosphere that was encouraging and had the necessary technical capability. The company immediately focused on designing equipment that was easier to use, more efficient, faster, reduced losses, and included data collection and reporting ability.

West notes: “Since Gas Technologies’ startup two years ago, we have successfully engineered, built, and installed filling systems and controls that offer small- and medium-sized welding distributors technologically advanced systems that, traditionally, only larger customers could justify. In addition, Gerhart manufactures bake out ovens, specialty electrical enclosures and panels, and purification systems for our specialty gas customers. Our strategic alliance with Nishi Corporation, a group of chemical and process engineers with many years of cryogenic experience, has allowed us to offer engineered process solutions for purification of various gases including carbon dioxide, oxygen, and a new style of helium purifier being launched in September of 2010.”

Jim Brancato, Operations Manager of AGL Welding Supply, a Clifton, NJ-based



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Industrial, Medical, and Specialty Gas distributor says: “Gerhart Gas Technologies installed a liquid cylinder filling control system that gives us a detailed report on how many and what type of cylinders were filled, the length of the fill process, and operator ID. Most importantly, this system measures the flow as well as the net mass in the container during the fill process and automatically calculates the losses we experience for each cylinder filled. Daily, weekly, and monthly reports allow us to monitor how the system is functioning. With this system, we were able to identify where our largest losses were occur-

ring and modify our filling process to minimize our losses. In so doing, we expect a decent payback from the reduced losses. We were also able to calculate the true costs associated with filling liquid cylinders and to take appropriate actions on the sales side to improve revenues.”

Two new products of which West is very proud are Gerhart’s Gas Technology Smartgauge and Cryosentry systems. The Smartgauge system allows small and medium fill plants to fully or semi-automate their fill process for a very affordable investment. The Smartgauge uses a unique and flexible con-



The Cryosentry system uses a Gerhart modified traditional industry standard panel for starting and stopping a cryogenic liquid pump.



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The Essential Business Guide For Industrial Gas Markets

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 - The Argon Market Update
 - The Helium Market Update
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Pictured are: Stuart Cattell, President (left); Jim West, Jr., Manager of Gerhart Gas Technologies (center); and Steve Braithwaite, Vice President of Technology and Systems (right).

troller that both functions like a PLC and an HMI (human machine interface) in one package. The Cryosentry system uses a Gerhart modified traditional industry standard panel for starting and stopping a cryogenic liquid pump. That panel includes an overpressure switch, as is recommended by pump manufacturers, but Gerhart has added a touch screen that monitors and alerts the operator for routine inspection and maintenance requirements. The Cryosentry also automatically reverses the direction of the motor every time the pump is started. These two features can significantly extend the life of a pump. And the Cryosentry uses pressure transducers instead of digital switches, which make the system more flexible.

Gerhart's New Structure and Strategy

Today, Gerhart is a combination of the original Gerhart Scale Corporation, Gerhart Systems and Controls, and Gerhart Gas Technologies. The company now services customers in 38 states and in Mexico, Canada, and Europe. Its operations in NJ, PA, and NY employ approximately fifty people.

In addition to his responsibilities as President, Stuart Cattell heads up marketing and sales. Steve Braithwaite is Vice President of

Technology and Systems and heads up Gerhart Systems and Controls. Andrew Cattell, Stuart's brother, is Vice President of Service overseeing the field service over the Mid-Atlantic region. Jim West, Jr. is Manager of Gerhart Gas Technologies, a division of Gerhart Systems and Controls.

With the business combination of integrated and automated weighing systems design, controls, and monitoring, and now, associated filling systems engineering and design, Gerhart is moving into a greatly expanded marketplace. Commenting on Gerhart's strategy for the future, Stuart Cattell says: "Since our founding over 80 years ago, evolution has taken us from our original base in New Jersey to the global marketplace. As we see the economy slowly recovering and the manufacturing sector increasing, we are excited about bringing our ideas to market and making our customers as profitable and competitive as ever. We have historically thought out of the box and have committed ourselves to our customers' success. If our customers are successful, there is a good chance we will be as well. Now that I have said that the DOW will drop, again." ■

For more information on Gerhart's services and products visit www.gerhart.com