“Our Green Journey”

Speech delivered by Art Anton, President & CEO, Swagelok Company
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Thank you for that warm introduction, Sande. It’s a real honor to be part of this distinguished group of manufacturing leaders. I really enjoy being with fellow manufacturing executives, and, I’m looking forward to getting to know some of you at this summit.

Green thinking is becoming more and more a part of our formal strategic planning process at Swagelok Company. How can we help our customers be more green? How can we ourselves contribute to more sustainable manufacturing? I’m the first to say we have more to do in this area. That's why we think of this as a process, or, OUR GREEN JOURNEY.

At Swagelok, we are focused on three green objectives: growing the top line which means understanding the green priorities for our customers; reducing waste and costs in our own operations; and, good overall environmental stewardship in everything we have always done, in everything we do today, and what we plan to do in the future.

But first, I thought you would like to know a bit about Swagelok Company. Basically, our products help fluids and gases get to where our customers need them to be without leaking. We are privately held with about $1.3 billion in sales annually and have 4,000 associates worldwide. 7,000 when you include our distributors. Our manufacturing and distribution footprint is global. We manufacture high quality, precision stainless steel and other alloy products for oil and gas, chemical, semiconductor, biopharm and other industries.

Our values and culture define us. Three of our values, respect for the individual, quality and integrity, have been part of our fabric from the beginning. Our three newer values are customer focus, innovation, and continuous improvement, and we’re making good progress on internalizing these values as well.

Now is a critical time for many manufacturing companies. We want to contain or reduce costs, but we also want to do all we can for our customers.

At Swagelok, we believe that by living our values we will be able to bring our customer value beyond the expected. Our values support our company vision to truly understand the needs of our customers and act on them. They also support our mission to apply our collective talents with understanding and passion to improve each day.

Fred Lennon founded our company from his kitchen table in Cleveland, Ohio in 1947. Gifted with a knack for selling, he changed the way industry works by introducing a novel idea for fluid system connections, a tube fitting which is a leak tight fluid coupling that is easy to install. I like to think our green journey began at that kitchen table with Fred’s vision which was pretty simple:

• Be eternally vigilant on quality.
• Treat people with respect.
• Make the best product possible to help the customer succeed.
• Put inventory close to the customer.
• Sell through a network of exclusive distributors.

Today we operate in 57 countries and the various product brands are all united under the Swagelok brand umbrella.

At Swagelok we continue to broaden our product breadth and depth. Recent efforts include more tube fittings for high pressure applications and miniature modular systems. These are two product examples of top line growth spawned by green trends. I'll share more about these in a minute.

One of the complexities of our business is the variety of industries we serve. We got our start in general industrial markets such as chemical and petrochemical and oil and gas. Today, we are well-established in high-tech markets as well, such as semiconductor. I’ll say a little more about two newer ones, alternative fuels and photovoltaics.

We operate a unique business model with approximately 100 distributors selling Swagelok authorized products and services exclusively. These people are motivated entrepreneurs and very closely aligned to the company. About 3,000 Swagelok sales and service representatives provide local sales and service around the world. They operate in local language, understand local customs and business practices, and possess technical knowledge of regional standards.

We support our distributor base with strategically placed technology and distribution centers. Our order fulfillment center is 325,000 sq. ft. Today we have more than 1,000 people working in this facility and 150 work cells.

Our valves and tube fittings help customers reduce leaks significantly reducing costs, eliminating waste, and protecting their people and the environment in general.

How else, then, can we facilitate the move to sustainability? First, view the needs of our customers through a green lens. Second, design products and services to comply. This takes some internal discipline and investment. At Swagelok we encourage our engineers and scientists to be active on the industry boards that set standards. We recently implemented ISO 14001 at the order fulfillment center I just showed you, and keep a laser focus on quality. We are diligent about our Swagelok Quality System which covers the entire value chain, including distributors. This quality system is more aggressive than ISO and makes it easier and faster to introduce new products and services.

Here’s an example of a new product that helps customers meet their green goals. Swagelok modular platform component (MPC) systems enable the miniaturization of traditional process analytical sample systems. MPC is modular and conforms to the newly released ANSI/ISA standard. Smaller enclosures require fewer utility services which reduces costs. By placing the analyzers closer to the sample trap, you also reduce inaccuracies associated with long sample transport lines.

Compared to traditional sample delivery systems, the Swagelok MPC has less internal volume which allows you to use fewer analyzer gases and decreases purge times.
Coupled with the swept flow paths of the flow components, MPC systems operate cleaner and with less entrapment.

Swagelok® medium-pressure tube fittings offer reliable leak-tight gas seal installation in small molecule applications, along with consistent and dependable remake. In addition, they can be installed on cold-drawn or annealed tubing either by turn or torque and are gaugeable upon initial installation.

Our cartridge design ensures proper assembly into the female body. These new fittings hold pressures up to 15,000 psig or 1,034 bar, and represent an example of how we are getting ready for the hydrogen economy. Storage for fuel cells use these higher pressures.

Swagelok Energy Advisors is an example of a new service that helps customers meet green goals. It’s also helping us grow sales. Our Swagelok Energy Advisors (SEA) group specializes in the evaluation of steam, condensate, and compressed air systems. SEA provides engineering, audits, project management, and training programs focused on strengthening in-plant fluid system assessments. SEA helps to reduce energy usage as over 25% of steam generated is wasted, and almost 20% of steam applications can be satisfied with lower pressure steam. We improve boiler efficiency in over 35% of steam systems when the steam quality does not meet stated requirements. SEA helps in understanding system performance including system performance benchmarks, world class steam system benchmarks, and B31.1 codes for steam systems.

I promised you some industry growth examples. Nuclear is an industry acutely impacted by the green trends. After years of inactivity, we now have countries reporting plans for over 220 nuclear reactors. Swagelok has been involved in the nuclear industry since the beginning and we have held continuous ASME certification since 1981. Despite the economic recession, we see this as an area of growth and have continued to invest in our nuclear capabilities and offering during the last 18 months, including adding new engineering talent.

Representatives from Swagelok participate on nuclear industry associations and standards committees, such as ASME and Canada’s N285 committees. The NCA-4000 quality program and NCA-3800 for material provides us the ability to manufacture and supply valves and fittings. Swagelok is audited by industry consortia such as NUPIC (Nuclear Procurement Issues Committee) and NIAC (Nuclear Industry Assessment Committee). I’m proud to say that in our last Nupic audit, there was not a single non-conformance. This was a major audit with 20 plus auditors who looked at the entire scope of supply.

Meeting the growing approvals and regulations can be a challenge. For example, we have implemented complete traceability for products used in the nuclear industry. For the nuclear power industry alone, we carry, and get audited to 11 international approvals including, ASME Boiler and Pressure Vessel Code, N-Stamp Certificates, ISO 9001, NCA 3800 and 4000, PRC for China and CSA for Canada.

Alternative fuels and photovoltaics represent examples of new market opportunities for us. We participated on the first street-legal bike designed to run on compressed natural gas (CNG). It was commissioned to demonstrate expanded possibilities of natural gas.
as a vehicle fuel. Featured on the popular television series, “American Chopper,” it relies on selected Swagelok products.

Concerns over climate change are triggering the search for alternatives to gasoline, diesel, and other petroleum-based vehicle fuels. Swagelok provides products and services to support the design and production of natural gas vehicles, filling stations, and hydrogen fuel cell technology. Swagelok quality systems and products are internationally recognized with a range of compliance certifications including, ECE R110, CSA/NGV 3.1 and 4.6, ATEX, and ASME B31 standards. Swagelok alternative fuels products are marked to ensure complete material traceability.

Let’s look quickly at the new photovoltaics market. In September we introduced the Swagelok Photovoltaic Process Specification (SC-06) aimed at helping to ensure quality and to reduce system cost of ownership for the growing photovoltaic industry. The SC-06 specification was developed to fill an industry need to specify fluid system components that match the process requirements of solar cell production. Much like our previous specifications, SC-06 outlines testing, cleaning, and packaging steps for stainless steel components that are used in Photovoltaic applications. The specification bridges the gap between ultrahigh-purity standards and the less stringent requirements of general industry products. For instance, products processed with SC-06 are single bagged outside of the clean room.

You’ll think it strange when I say one of our strategies has been to simply MEET THE CUSTOMER. We want everyone, from directors to the shop floor associate operating a CNC machine, to be tuned in to the needs of our customers and be willing, ready and able to act on those needs. To raise awareness, we have been asking customers to tell their stories directly to associates. Sometimes, when customers visit, they agree to speak to small groups of associates highlighting what they like about our products and what could be better. Other times, we share information on posters or on our intranet site. More and more, these stories evolve around quality, being green and sustainable.

One customer offers hyperbaric oxygen therapy (HBOT). It is a treatment used to heal tissue by increasing the body’s oxygen flow. For many years, this therapy has been used to treat illnesses such as decompression sickness, carbon monoxide poisoning, and severe burns. The demand for the treatment in the US increased substantially, however, when HBOT was approved for the treatment of diabetic ulcers. A hospital in Cleveland, Ohio, which has an estimated 53,000 diabetics living in the target area, addressed the increased need for this treatment in a green way. It developed the world’s first truly mobile hyperbaric chamber. The chamber fits into a truck trailer and can be driven between locations. The mobile chamber is loaded with Swagelok components.

Another customer developed the Hydrogen House in New Jersey. It looks pretty much like any other house until you take a walk to the back. It is the first ever retrofitting of an existing home with a combination solar-hydrogen heating and power system. With this system, the home owner does not need any external electricity or gas to heat and cool his home, heat his water, cook his food or run his appliances. Swagelok’s reputation for quality helped the house get approved by building inspectors who had never seen this type of system before.
Okay, so much for growing the top line. Let’s look at the bottom line. What are we doing inside the company to be more sustainable? Rooted in our values, we pursue good corporate citizenship. For example, the Swagelok Foundation is active in good times and bad. Through it we support education and various community organizations.

We expect every member of our operating committee, about 40 people, to serve on one or two non profit, community boards. Customers who tour our facilities often remark on our exemplary safety and housekeeping, and despite the economy, we are pursuing lean principles, continuous improvement and measuring it all until it hurts to make sure the good changes stick. From a marketing perspective, we are conservative and brand from the inside out. This means we take great pains to become the changes we want to make, before we begin promoting externally.

Our green business practices include keeping our shops clean. We subscribe to the lean 5S concept where everything has its place which helps reduce waste. We have an aggressive preventive maintenance program for machines which keeps our utilization rates up and reduces leaks, reduces wasted oil, and decreases transportation related fuel usage. We remove oils and chemicals from uniforms and the water, before it is discharged. Concentration sensors help prevent over use of chemicals.

With the good ideas of our associates, our continuous improvement activities include recycling and reuse. We clean and reuse supplies such as shop towels and cut-resistant gloves. We recycle hundreds of thousands of pounds of oil, chips, lamps, batteries, pallets, wood, cardboard and paper each year. We recycle about 1.5 million pounds of scrap metal each month. We reprocess and reuse our machine cutting oil.

Since 2002 we have consolidated 18 plants with a floor space reduction of 40% and an increase in output of 30%. Recent lean supply chain activities in our fittings group resulted in improved quality to 3.4 parts per million defects. While we are proud of this, our goal is actually ZERO customer disappointments. The fittings lean event improved the service level to 99%, and reduced scrap and rework costs between 60 and 80%. These savings are helping maintain pricing despite rising material costs.

We’ve made good progress on our buildings and equipment but could do more. One of our newer laboratories is completely “plumbed” with Swagelok products. The lighting in many of our buildings has been retrofitted with “greener lamps” reducing electricity used by 33%. We have installed automatic light switches and motion sensors in our warehouses. We do thermographs of our buildings to pinpoint where insulation is needed.

Great partners on our green journey have been the young people in our organization. We have found that these “millennials” have a passion to help conserve the resources of the world. To make sure we are capturing the energy from young people such as these, we have formed an “Emerging Professionals” group to help them feel more a part of the organization. We encourage innovation, whether it’s about being greener or improving a process for greater productivity or quality and we work hard to systematically capture and implement the best ones.

Our formal Swagelok Improvement System helps us maintain standard work, innovate, and then capture the new thinking in standard work once more. We’re still working to
get comfortable with the paradox that we need to have standard work and at the same time we need to make continuous improvements.

Where are we today? We are active in standards organizations and assessing new regulations. We are working to really understand and impact our carbon footprint. As part of our lean activities, we are reducing waste methodically. We are continuously lowering our relative energy consumption. And, we are developing those projects with the best return on investment for the overall health of our organization and future business prospects.

In conclusion, I hope that I have been able to leave you with some ideas for growing your sales with an eye to the green trends we have identified at Swagelok. By using a green lens to understand the needs of your customers, you will be able to help them become more sustainable. Stick to your values. The opportunities are equally as rich as you look to your own business and find ways to reduce, recycle, and reuse.

Thank you so much for letting me share my thoughts with you this afternoon. If we have time, I’d be happy to answer any questions.