Enabling Technology for a Better World

Interview with Kurt J. Lesker IV, President and Chief Executive Officer of Kurt J. Lesker Company

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Since Kurt J. Lesker II, your late grandfather, started the Kurt J. Lesker Company on April 1, 1954 in the basement of his home in Pittsburgh, Pennsylvania, the company has grown into a worldwide provider of almost everything that vacuum-assisted technology users dream of. What steps in your company's history do you consider most important?

My grandfather was a true entrepreneur. He was a chemist from Pittsburgh, who worked as a salesman for a scientific distributor. He was laid off during a downturn in the early 1950s. Not knowing what he would do next but knowing he wanted to be in control of his own destiny, he decided to start a company. With little capital or products but a strong will to succeed, he marched into the registration office and declared he would start a company. When asked the name of his new company he had no answer. When asked what products he would sell he replied, "I don't know yet". Seeing that this young, hungry entrepreneur was without a specific plan they told him "just name the company after yourself, then you can sell whatever you want" and the Kurt J. Lesker Company was born.

Kurt J. Lesker II – Founder of the Kurt J. Lesker Company

From my grandfather's inauspicious beginnings as a regional manufacturer's representative to becoming a leading global manufacturer of vacuum deposition systems, chambers, components and materials, there have been many important milestones along the way.

To service our ever-growing number of international clients, we made the strategic decision to expand internationally. In the late '80s and early '90s, we opened up offices in Budapest, Hungary, and Hastings, England, which allowed us to be local with language, support, inventory, time zones, and culture. Building on the success of those two locations, we expanded into France, Poland, Germany, Netherlands, and Portugal. We continue to look for other strategic expansion opportunities as our business grows.

Another milestone was working with the entire organization to establish our SPIRIT values. It was a transformative experience. Through a collaborative team-based approach, we spent months discovering and deciding what we stood for as a company. At the end of that process we developed our SPIRIT values: Sustainability, Passion, Integrity, Respectful, Innovation and Teamwork. These are fundamental to how we operate as a company, both internally and externally with customers and suppliers.

Thanks to my grandfather's and father's strategic vision, as well as the dedication and hard work of generations of Kurt J. Lesker Company employees, we've expanded our business, grown our customer base, and added new and innovative products.

What is your personal educational background and career path?

I earned a degree in Industrial Engineering from Lehigh University and began my career working in New York City as a consultant on large-scale construction projects. Eventually, I joined the Manufacturing Division at Kurt J. Lesker Company as an Industrial Engineer where I implemented Lean practices, quick-turn manufacturing cells, Kanban inventory, 5S Waste reduction, and subsequently spent three years leading and achieving our global ISO 9001:2000 Quality Management certification.

In 2011, I moved to Shanghai to work with our long-time regional Vice President, Angela Wei, to develop the Asia region. While there, I also earned my MBA from Duke University. I then moved to Hastings, England, and then Fontainebleau, France, before returning to the United States in 2014 as Vice President of Sales. It was at that time we all learned that my father had been diagnosed with cancer, which he battled for the next seven months.

Since his passing, the Kurt J. Lesker Company continues that legacy of providing exceptional

KURT J. LESKER IV

President and CEO of Kurt J. Lesker Company

Bachelor of Science degree in Industrial Engineering from Lehigh University; MBA from Duke University (Fuqua Scholar);

Kurt lives in Pittsburgh, PA. He is an instrument-rated pilot and Ironman triathlete. Details of his professional career are mentioned in the first part of the interview.

customer service and we honor him with our commitment to our SPIRIT values.

Nowadays, you offer products in the Manufacturing, Vacuum Mart, Materials and Process Equipment divisions. Can you describe your product portfolio and its significance for the development of your company?

We take a customer-first approach to our product portfolio – as our customer's needs change, so does our product offering. We also give our customers a single point of contact so they have a trusted source who can provide them with the knowledge and expertise they need.

The Process Equipment Division (PED) offers a wide range of Physical Vacuum Depositon (PVD) and Atomic Layer Deposition (ALD) systems for R&D and Pilot Production. We have an installed base of over 1,600 KJLC deposition systems, which are spread throughout 900 facilities around the world and include everything from small research groups at a university to very large multinational technology firms.

The Manufacturing Division was established 25 years ago to support our Process Equipment Division and as a value-add to our vacuum components customers. It has grown to include two state-of-the-art manufacturing facilities where our engineers, welders, machinists, quality technicians, and project managers understand the importance of building for vacuum. We insist that our weldments are helium leak tested, cleaned for UHV as standard, quality checked on a coordinate measuring machine, and reviewed by our vacuum engineering team for structural integrity. Once again, our client base varies and includes both high-volume production sites and one-off R&D customers. We also offer an online Chamber Builder which makes it very easy for our customers to custom configure a vacuum chamber in a 3D model.

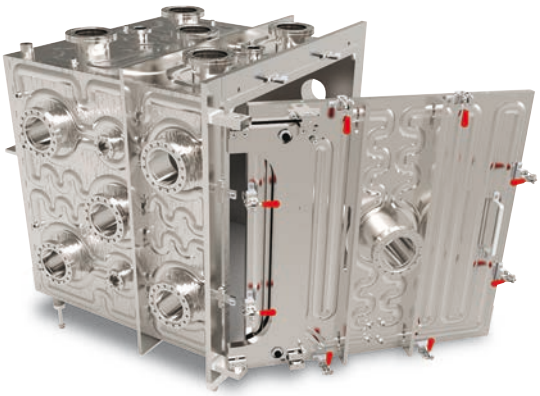
The Kurt J. Lesker Company's EMEIA Distribution and Manufacturing centre located in Hastings, England.

Our Materials Division is designed for customers who are pushing the boundaries of science. Whether for a R&D scientist, automotive lighting plant, or Semiconductor fab, we consistently offer high-quality, high-purity materials. We maintain our exceptional standards by vertically integrating our manufacturing, processing, cleaning, packaging, and analytical equipment to offer a wide range of deposition materials while ensuring they have the quality our customers expect.

Through key partnerships, the KJLC Vacuum Mart Division manufactures and distributes high-quality vacuum products around the world through our six logistics centers. We know that customers have a lot of choices where they can buy these products, so we are always looking to deliver an exceptional experience.

Which fields of application do your customers work in, and what expertise can you offer to support them?

KJLC offers a wide range of Turn Key Thin Film Deposition Tools.



Innovative Technology like Hydra~Cool are among KJLC's latest product developments.

The various fields of applications from our customers are what makes our jobs so exciting! Vacuum is present in so many of today's products that it gives us a chance to work with leaders in Optics, Wear Coatings, LED & Crystal Growth, Organics, Electronics, Synchrotrons, Aerospace, and Medical Devices to name a few.

Our Advanced Technologies Group (ATG) is staffed with engineers, scientists, and researchers who regularly share their expertise with clients. Our Technology Education Department is led by J. R. Gaines, Director of Technical Education, who travels the world and teaches our customers all about vacuum science.

Our Applications Group, part of our ATG, provides support to our deposition customers. This group consists of PhD scientists in Centers of Excellence (COE) spanning PVD, ALD, and Organics who specialize in assisting customers with their applications. The COEs are regularly collaborating with customers to help solve technical problems which often results in joint publications and new product developments.

The last piece of our Advanced Technology Group is our Engineering Design Services. I mentioned before that our customers are frequently pushing the edge of technology. Our design group has mechanical, electrical, software, and industrial engineers to clearly understand the end goals of our clients and then assist them with engineering a vacuum solution that meets those goals in a cost-effective way.

What are your latest product developments and what current and future trends in vacuum technology do you anticipate?

Everything is getting smaller and more interconnected. There has been a large spike in demand from customers in memory and sensors driven by Artificial Intelligence, Virtual Reality, Internet of Things and autonomous vehicle development. Physical and biological sciences continue to overlap which is introducing a new customer subset. Our culture of innovation means that we are always improving and creating solutions for the marketplace.

Our unique Hydra~Cool is a technically superior and cost-effective method of water cooling vacuum chambers. We developed it for the crystal growth industry to address some significant cooling challenges facing our customers. It provides more effective cooling compared to traditional water trace along with improved corrosion resistance, lower water volume, more flexible configuration, and superior surface area coverage.

Mag Keeper Circular Magnetron Sputter Sources are now standard on our sputtering systems. The design does not have o-rings and utilizes ceramic insulators, making it both UHV and high-temperature compatible. The design also allows for quick target changes and higher operating powers which are ideal for use in high throughput requirements.

Our eKLipse software is also now standard on all of our deposition tools. This software provides user interface consistency across platforms and gives our users peace of mind with an uninterruptable processing module that allows process completion, regardless of the state of the computer user interface.

The HIPIMS IMPULSE supply is a versatile pulsed power module that converts a conventional DC sputtering system into a fully-functional High-Power Impulse Magnetron Sputtering (HiPIMS) system. It is ideal for reactive sputtering and synchronized co-sputtering or substrate timed pulse bias on dielectric and metal sputtering targets.

Many people still do not know we are a manufacturer of ALD systems and have been for over ten years. The ALD150-LX is a research tool for thermal Atomic Layer Deposition processing up to 150mm diameter substrates. It features minimized reactor space, patented Precursor Focusing Technology that practically eliminates parasitic CVD, and perpendicular flow reactant input. Efficient use of precursors allows superior film properties and cycle times.

COMPANY

The Kurt J. Lesker Company (KJLC), is a dynamic, rapidly growing manufacturer and distributor of thin film deposition systems and components for the vacuum technology market. KJLC has locations across North America, Europe, and Asia serving as a global supplier to industries, universities, and government laboratories. They offer products and technologies that are used for various research and production applications, including: semiconductor manufacturing, automotive coatings, night vision goggles, LED lighting, and solar cells.

The Kurt J. Lesker Company's world headquarters, including sales, manufacturing and warehousing facilities, are located in Pittsburgh, Pennsylvania. They also have offices located throughout the world in California, Canada, China, Germany, France, and Hungary including their EMEIA headquarters in Hastings, England, that also houses sales, and manufacturing operations. In addition to its domestic and international operations, the company has representatives in more than 50 locations around the globe.

The Kurt J. Lesker Company has four core business divisions: Manufacturing Division, Vacuum Products (Vacuum Mart Division), the Process Equipment Division and the Materials Division. KJLC is expanding quickly in the rapidly growing marketplace of industrial and research vacuum, with an extensive base of manufactured and distributed products – always according to the company's slogan "Enabling Technology for a Better World."

We recently released the 2018 NANO 36. The updated chamber design is uniquely suited for glovebox integration. With increased capabilities and a smaller footprint, the NANO 36 still provides an accessible price point while maintaining the quality you expect from KJLC.

Developing partnerships is also an important part of offering new products to our customers. We recently became the exclusive distributor for Brooks CTI-Cryogenics pumps in EMEIA and are once again a global distributor for MKS.

During the last years on the vacuum market, one company after another is sold and bought. How can a smaller company like yours survive in these many takeovers?

Every acquisition creates an opportunity, and ideally, we want to engage in long-term relationships with our customers and partners. Sometimes an acquisition will consolidate the market and create changes, but we are well equipped to deal with those changes. Being a manufacturer, distributor, and technology company with operations in several countries gives us a lot of flexibility to take advantage of opportunities created. Also, we are not that small anymore and will expand where it makes sense to enhance our customer experience through unique products or services while maintaining the KJLC culture.

With the company having enjoyed successful growth firstly in the US and then globally with headquarters in Asia (office based in Shanghai) and EMEIA (office based in the UK), what do you believe is the reason for the company's ability to thrive in these regions?

Strong local management and an understanding that America is not the center of the world. I believe in my teams and trust them to make the right decisions. The cultural side of doing business is often overlooked. I see a lot of companies that translate the welcome page of their website and print a few ads in the local language and think that presents a local presence to the customer. While we started in the United States, we are a Chinese company doing business in China, an English company doing business in England, a Dutch company doing business in the Netherlands, and a German company doing business in Germany. That is also why we have incorporated in each of these regions, hired locals in these countries, are active in local conferences, societies, and have developed products suitable for regional requirements. To realize real scale, we created a business framework, hired capable people who love what they do, developed a vision of where the organization is headed, and then stepped back so they can work together to build something extraordinary. I call it the "Magic of the Matrix."

KJLC has a number of open positions available around the world for passionate individuals who want to *Enable Technology for a Better World*.

Can you explain your company's mission statement "Enabling Technology for a Better World" and what do you see for the future of Kurt J. Lesker?

There are many important challenges facing today's world that need to be overcome. We like to think of ourselves as the caring and highly skilled vacuum technology company that helps with the next great discovery.

A Better World is something we are all very passionate about. We believe in improving our communities and the greater world. We do this through our products but also through our Corporate Sustainability program, which includes environmental clean-ups, recycling programs, volunteer activities, blood drives, fundraising campaigns for multiple charities, and mentorship programs at local schools.

In the future we will continue to grow our products and regions in a way we can best support science, research, industry and all of the technical innovations which are improving our world.

What career opportunities do you offer at KJLC, worldwide and maybe also in Germany?

Germany is a very important market to us. It is the fourth largest GDP country in the world and has one of the best frameworks for conducting research and applying it to industry.

We have a strong customer base in Germany and have a proud history with the organic electronics research conducted in the 1990s and early 2000s. Several KJLC employees live in Germany and our entire website will be translated into German by mid-2018.

Our team and culture are paramount to our success. Finding passionate individuals that fit into our SPIRIT values and who want to make a difference in the world, are the people I want on our team. Please check out our Careers page to view all of our open positions available around the world (www.lesker.com/careers).

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