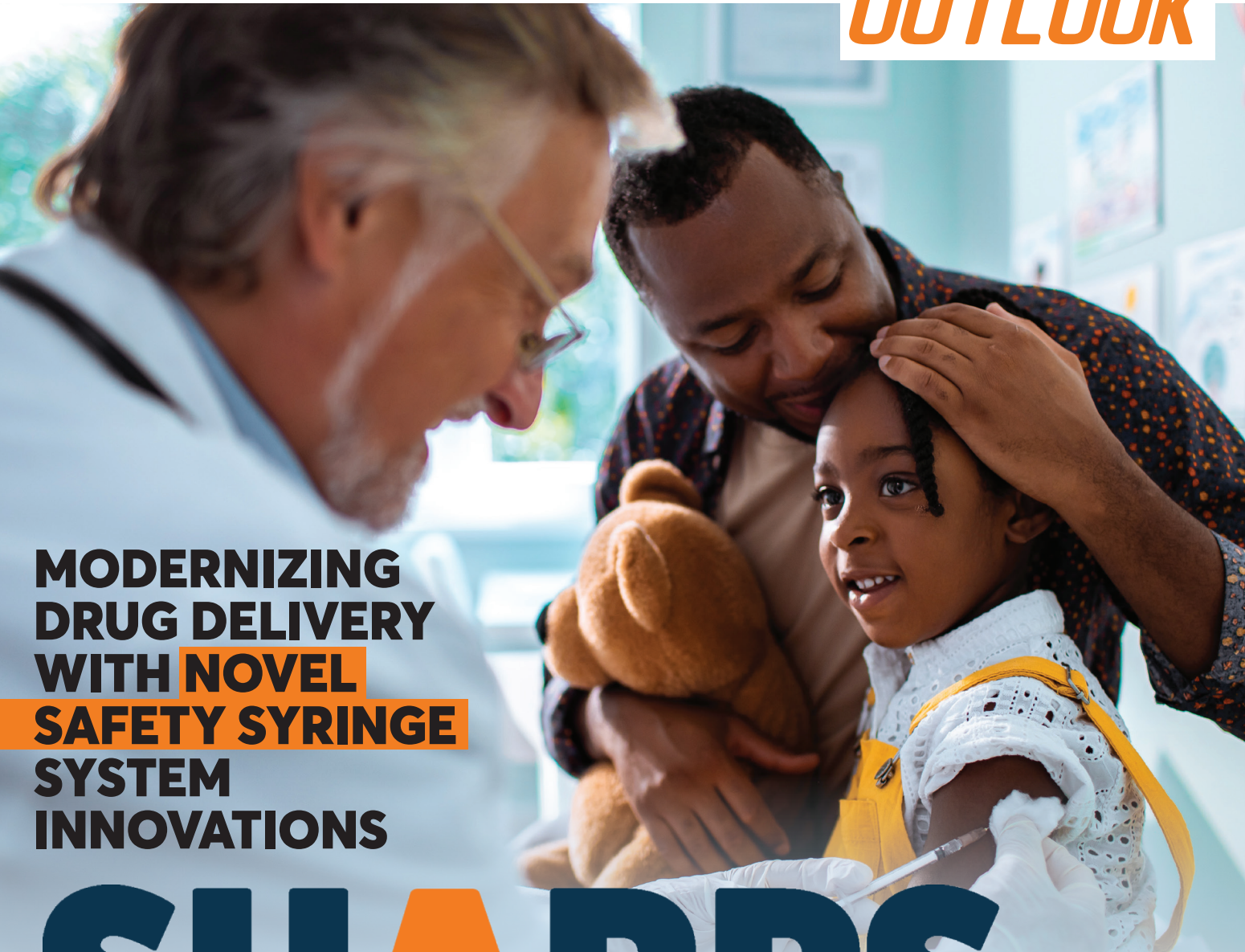


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OUTLOOK



**MODERNIZING
DRUG DELIVERY
WITH NOVEL
SAFETY SYRINGE
SYSTEM
INNOVATIONS**

SHARPS

TECHNOLOGY, INC.™

\$15



MEDTECH OUTLOOK TOP 10
SAFETY SYRINGES
MANUFACTURERS - 2023

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C O V E R S T O R Y

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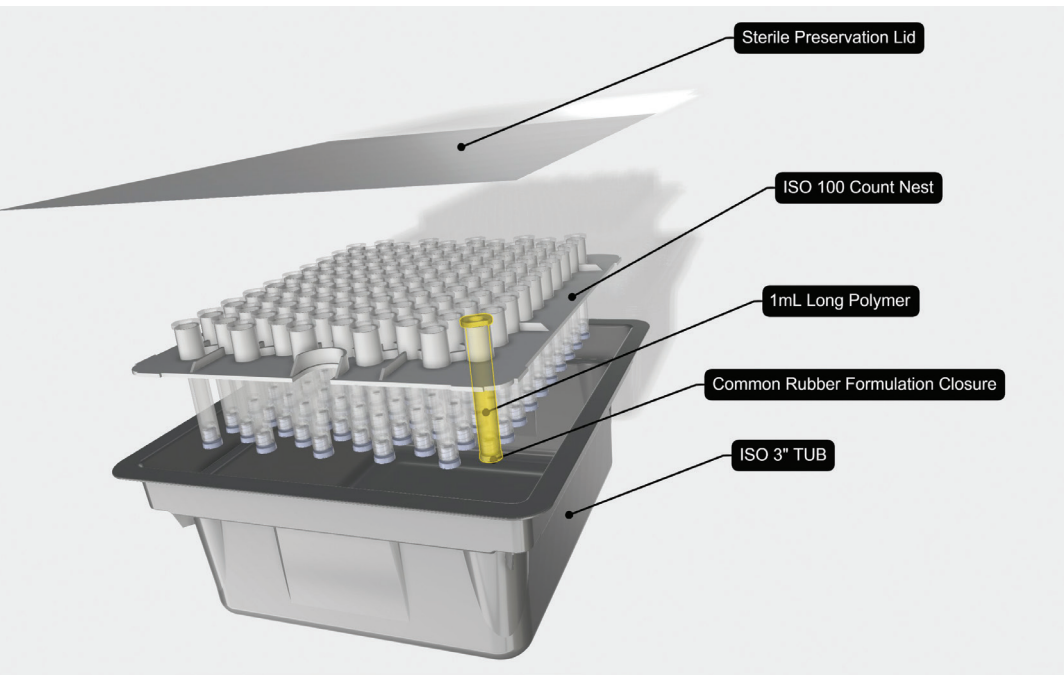
MODERNIZING DRUG DELIVERY WITH NOVEL SAFETY SYRINGE SYSTEM INNOVATIONS

Sharps Technology [NASDAQ:STSS] is a medical device company that has developed specialized syringe system products for pharmaceutical and healthcare markets. Led by syringe manufacturing industry veteran Robert Hayes as CEO, the company is advancing its products from research and development to commercial sales that are expected to launch in 2023. Sharps was founded privately in 2017 with a vision to develop

innovative drug delivery technology, and completed an IPO in 2022. Today, the company has a wholly owned manufacturing facility in Hungary and signed a manufacturing and sales partnership with Nephron Pharmaceuticals to advance its next-generation specialty polymer-based syringe products. Sharps has developed a pipeline of innovative disposable and prefillable products for the healthcare industry that include unique smart safety features,

ROBERT HAYES,
DIRECTOR AND CEO





of Sharps Technology's prefilled syringes and bringing them to market three years ahead of their original schedule. This acceleration will help North American pharmaceutical companies gain access to prefilled syringes faster and shrink the long lead times experienced with European suppliers.

2. The Pharmaceutical Services Program enables Sharps Technology to support Nephron and other pharmaceutical companies to expand their product development capabilities and bring forth more new drugs with specialty applications.

3. Distribution and Sales Agreement allows Sharps Technology to utilize Nephron's

sales and marketing team to further support the sale of the company's innovative products to targeted customers within the Nephron customer network. This includes a reach of more than 3,000 customers through a combination of direct and online sales on their web-based electronic portal system, with customer product in-servicing to facilitate specialized customer opportunities.

4. Opportunity to Expand allows Sharps Technology to increase its manufacturing capacity by adding an expansion facility on Nephron's campus in Columbia, South Carolina. Through this collaboration, Sharps expects to surpass the 100-million-unit mark in its onshore manufacturing of prefilled syringes as the second facility is built and manufacturing cells are onboarded to meet customer demand.

Growing Transition from the Use of Old Bulk Syringes to Innovative Polymer Prefillable Syringes

Over the last 20 years, the pharmaceutical syringe operational model has shifted from the use of bulk syringes to prefillable syringes, increasing prefillables from 15 to 85 percent. Focusing on prefillables, pharmaceutical operations can decrease their manufacturing footprint by about 50 percent. With new technologies in fill-finish equipment, syringe filling has become more accurate and faster in this smaller footprint, and prefillable syringe systems are considered a high-growth segment of the drug packaging market.

reuse prevention, ultra-low waste systems, and co-polymer designs.

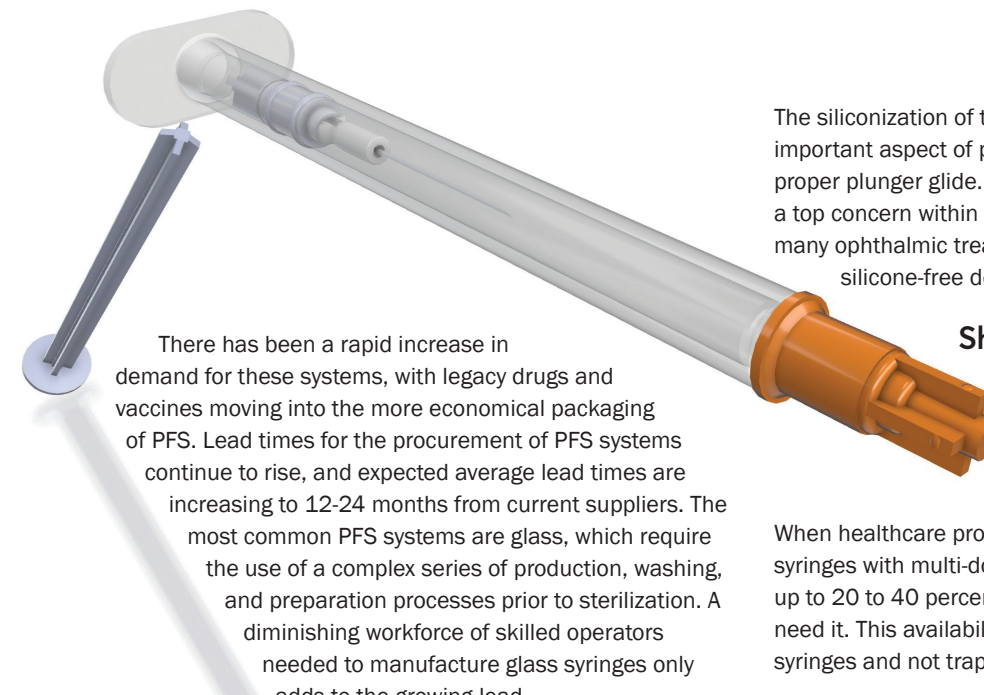
Sharps' current safety syringe offerings include Securegard, an ultra-low waste system that incorporates active safety features and re-use prevention. It is available in 1mL to 10mL barrel sizes and in-demand cannula configurations. Both the Provensa and Provensa RS systems are ultra-low waste, passive safety syringes that also incorporate the reuse prevention feature.

Transformative Partnership with Nephron Pharmaceuticals to Advance Commercial Operations

In its mission to shift pharmaceutical companies toward prefilled syringes, the collaboration between Sharps Technology and Nephron Pharmaceuticals is the next step toward providing novel drug delivery solutions. Sharps announced a manufacturing and research partnership with Nephron Pharmaceuticals in November 2022 and has since made significant developments that will enable the company to generate revenue from commercial operations.

The agreement with Nephron is focused on four key components: Co-Manufacturing, Pharmaceutical Services, Distribution & Sales, and Manufacturing Expansion. The partnership is focused on developing and sharing best practices to diversify product lines and create high-value drug delivery systems for advanced biologics in the healthcare industry.

1. The Co-Manufacturing Agreement accelerates the production of prefilled syringes by advancing the production



There has been a rapid increase in demand for these systems, with legacy drugs and vaccines moving into the more economical packaging of PFS. Lead times for the procurement of PFS systems continue to rise, and expected average lead times are increasing to 12-24 months from current suppliers. The most common PFS systems are glass, which require the use of a complex series of production, washing, and preparation processes prior to sterilization. A diminishing workforce of skilled operators needed to manufacture glass syringes only adds to the growing lead times for customers.

Sharps Technology has Developed Next Generation, High-Value, Specialized Polymer-Based Prefillable Syringe Systems

Based on extensive research and development, Sharps is offering an alternative high-quality solution to traditional glass syringe systems using inert polymers such as COP and COC. These polymer syringes have many of the same characteristics as current pharmaceutical glass designs to support long-term drug stability and increase shelf life for customers. Additionally, polymer syringes can also be made into custom configurations. They eliminate breakage, minimize dead space, reduce contamination, and support the development of unique devices, including autoinjectors. Sharps' product pipeline and market strategy will include a broad range of sizes, silicon-free systems that address contamination issues for the healthcare market, dual chamber systems that improve drug shelf life while reducing unnecessary packaging, and customized solutions for systems that serve the growing autoinjector segment.

Another area of development is the offering of non-siliconized systems.

The siliconization of the syringe barrel has always been an important aspect of producing sterile, prefilled syringes with proper plunger glide. But eliminating silicone is becoming a top concern within the pharmaceutical industry because many ophthalmic treatments and advanced biologics require silicone-free delivery.

Sharps Technology's Innovative Prefilled Syringe Platforms Provide Solutions for Drug Optimization with Low "Dead-Space"

When healthcare providers use low waste and ultra-low waste syringes with multi-dose vials, it allows for the availability of up to 20 to 40 percent more medication for patients that need it. This availability is created by using more efficient syringes and not trapping medication within the syringe

after the dose is given. Using standard syringes without a low waste feature means there is a larger dead space area within the syringe where medication is trapped and discarded after the injection. The trapped medication in the dead space of a standard syringe can waste 100 microliters (µL) of medication or more. Pharmaceutical companies that fill their medications into vials understand this and typically overfill the vial with drug therapy to compensate for the problem. As the costs for medication and vaccines rise, the discarded medication can cost the industry millions of dollars, or more, globally. Sharps Technology is working on rewriting the rules of drug optimization with its ultra-low dead space and prefilled syringe platforms.

Wholly Owned Manufacturing Plant in Hungary with Preparations in Place for a Full Production Schedule in 2023

Sharps purchased the Hungary facility in the summer of 2022 and commenced manufacturing Securegard, the company's first-generation vial-draw safety syringe product, in December 2022. The company invested in infrastructure and equipment upgrades to support both the distribution

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and sales agreement with Nephron Pharmaceuticals, and its plans to enter into customer agreements in Europe in 2023.

Products produced by Sharps at the Hungary facility comply with all applicable FDA, WHO, and ISO requirements and have been awarded the European Union's CE Mark. The plant is vertically integrated in that it has the capability to manufacture the syringe components by injection molding, assemble the devices in an ISO clean room environment on


traditional healthcare settings. They comply with U.S. regulatory, ISO, and WHO guidelines, making them suitable for use in the US and worldwide. More importantly, Sharps' products are highly customizable and support clients looking for private labeling opportunities as well. Since Sharps offers silicone-free products, it can cater to a wide range of clients, especially the niche drug development companies working with advanced biologics, that find it difficult to procure appropriate drug delivery systems for their therapies.

Justin Page, VP of Technical Operations, has 20 years' experience in technical injection molding and manufacturing within the medical device industry. He has served as Plant Manager, overseeing manufacturing operations, at Silgan, and previously managed injection molding processes for large-scale medical device manufacturing at Amcor Plastics.

Braden Miller, Director of Product and Program Management at Sharps Technology, has 15 years' experience in management and engineering roles with both branded and generic drug manufacture. He most recently worked with Geresheimer to manage the development and commercialization of innovative drug delivery systems, and currently drives the growth of Sharps' product offerings.

Filippo Filippi, General Manager of the Hungary syringe facility, brings together a dedicated and knowledgeable manufacturing force, with more than 20 years of experience in supplying the world with high-quality, innovative syringe products. Prior to the GM position, Filippi's career spanned years of building, managing, and supporting multiple manufacturing sites across Europe, Asia, and Africa.

Jill Alznauer, Director of Commercial Quality, brings 25 years' experience in managing customer-focused quality systems for specialty packaging for the pharmaceutical industry. Her proficiency in dealing with biotechnology and pharmaceutical companies helps Sharps Technology understand how to cater to the demands for specialty product applications.

Complementing the internal talent are Sharps Technology's industry partnerships, created to rapidly leverage best practices and achieve a high level of success for the company in the drug delivery system market. Through all these products, people, and endeavors, Sharps Technology aims to become a growth and value pendulum in the parenteral drug delivery landscape. 



automated lines or by manual assembly if required, and to sterilize the products on-site through the Ethylene Oxide (EtO) sterilization process. Having this last stage of the syringe manufacturing process in-house is unique in the industry and gives Sharps an advantage in supporting shortened lead times, as compared to the more common third-party syringe sterilization. The plant has the manufacturing capacity to supply more than 50 million units today, and the facility could be expanded to produce 250 million units or more over the next couple of years.

Providing Compliant and Customizable Products for All Client Needs

Sharps Technology's vial draw and prefilled products are useful in all

A Team that Thinks Outside of the Box

Today, Sharps Technology is paving the way for ongoing innovation in drug delivery technologies. Its team of management experts is the backbone of its growth, working on product development, manufacturing capabilities, and distribution.

Robert Hayes, Sharps CEO and Director, leverages a 25-year career in the healthcare, medical device, and pharmaceutical manufacturing industry. Before joining Sharps, he served as Senior Director of Product Management and Innovation with Gerresheimer Pharmaceutical Glass. Hayes led commercial sales and strategic partnerships with top global healthcare companies from 2010 until 2021.

For additional information about the company and its innovative drug delivery solutions, please visit the website - www.sharps technology.com.