

October 10, 2023

## SS INNOVATIONS INTERNATIONAL, INC. (OTC: SSII)

### BUSINESS DESCRIPTION

SS Innovations International, Inc., based in Fort Lauderdale, Florida, is a commercial-stage medical device and services company focused on the development, manufacturing, sale and support of medical and surgical robotic systems. The company is at the early stages of a commercialization strategy through which it aims to make robotic surgery accessible to a larger part of the global population, supported by cost-effectiveness and product differentiation.

In our view, the company is well positioned to benefit from the global trend of aging populations coupled with the need to deliver healthcare more effectively and efficiently. Its robotic product suite holds the promise of improving function, thus lowering morbidity and improving overall outcomes, as smaller incisions associated with the product result in lower infection rates. Since the initial commercial introduction of medical robotic technology more than 20 years ago, robotic assisted surgery has successfully reduced the risk of pain and infection, and also shortened recovery times. Recently, miniaturization and adaptability became the focus of the industry. We think its flagship “Mantra” surgical system is well positioned to capitalize on these trends.

To date, Mantra has completed two successful clinical trials encompassing more than 380 surgeries, and over 100 surgeons have been trained on the system. The platform has been validated in India to perform more than 40 different types of surgical procedures, including cardiac surgery. In addition to distinct product features that represent key product differentiation to current market leaders, we see the product further enhanced by proprietary software that is able to take any diagnostic imaging (CT, MRI) and on the fly, configure a 3D model that has been reconstructed specifically to the anatomy of the patient. This allows surgeons to know exactly where all of the structures are at the outset, thus helping them to navigate a much more efficient and safer procedure.

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### KEY STATISTICS

#### Key Stock Statistics

Recent price (10/9/23)	\$11.00
52 week high/low	\$18.00 - \$4.00
Shares outstanding (M)	146.2
Market cap (M)	1608.2
Dividend	Nil
Yield	Nil

#### Sector Overview

Sector	Healthcare
Sector % of S&P 500	13.4%

#### Financials (\$M, as of 6/30/23)

Cash & Mkt Securities	0.4
Debt	6.2
Working Capital (\$M)	-2.9
Current Ratio	0.7
Total Debt/Equity (%)	NM
Payout ratio	NM
Revenue (M) TTM	4.5
Net Income (M) TTM	NM
Net Margin	NM

#### Risk

Beta	NA
Inst. ownership	NA

#### Valuation

P/E forward EPS	NA
Price/Sales (TTM)	NA
Price/Book (TTM)	NA

#### Top Holders

NA

#### Management

Founder/Chairman/CEO	Dr. Sudhir Srivastava
CFO	Mr. Anup Sethi
Pres/COO- South Asia	Dr. Vishwa Srivastava
Company website	<a href="https://ssinnovations.com">https://ssinnovations.com</a>

### PRICE CHART



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SS Innovations has also developed solutions to complement Mantra in providing a full-service solution to surgeons and their treatment centers. The company developed the Mudra line of surgical instruments, which currently features more than 35 instruments, and Maya, which offers robotics-based virtual training platforms. The company’s mission is to provide these technologies and services to vast global populations that lack access to this advanced surgical care.

We estimate the market for robotic surgeries to be in excess of two million surgeries annually. Despite robust demand and procedure growth, we believe the industry remains at the early stages of growth and is poised to increase multi-fold over the next decade. The leading market player in the medical robotics space is Intuitive Surgical’s da Vinci system, which has approximately 8,000 systems installed, mostly in the US, Europe and Japan and currently has an approximate 85% global market share.

Despite its dominant market share, total penetration of da Vinci remains extremely low, in the context of there being more than 6,000 hospitals and up to 11,000 ambulatory surgery centers (ASCs) in the US alone, many of which offer multi-surgical procedures in an outpatient setting. At present, we estimate that the US, Europe, and Japan command roughly 90% of the global market share for surgical robotic systems, though we see Europe and Asia as less penetrated than the US.

SS Innovation’s initial market focus is on India, where there are an estimated 70,000 hospitals and a population of 1.4 billion, or over four times that of the US. The company also estimates there are 19,000 hospitals that are potential Mantra targets in countries not only in Asia but in other geographical jurisdictions as well. Despite the large addressable market, India is only now beginning to see broad medical robotic deployments, as lower purchase and maintenance costs have begun to make the technology more accessible. Thus, we think that investor awareness and appreciation for Mantra’s total addressable market remains low. We are also encouraged by the recent announcement of sales commencing in the United Arab Emirates, with its first delivery, as the company begins its expansion outside of India.

The SSi Mantra system has been cleared by India’s Central Drugs Standard Control Organization (CDSCO), India’s equivalent of the US FDA, and is already clinically validated in India in more than 40 different surgical procedures. Moreover, CDSCO clearance is viewed as a proxy for acceptance by up to 50 other countries. An additional 79 countries would require registration for clinical use while 16 countries have their own regulatory process independent of both US FDA and European CE Mark. Importantly, once the Mantra system has received regulatory clearance in many global jurisdictions including India, all surgical uses are authorized, rather than requiring approval or completing individually conducted

clinical trials. However, procedures may need to be approved for specific indications by the US FDA.

Thus, we see the potential for rapid adoption of the Mantra system, even as SS Innovations works to complete ongoing US FDA and European CE mark approval processes. We think the regulatory approval could be completed in the 2024/2025 time-frame, as the company announced in August 2023 that it retained the services of leading compliance firm Elexes to assist in the regulatory processes for these key regions.

In our view, the caliber of SS Innovation’s leadership team and investors helps to validate its technology and market prospects. Among the industry veterans and medical robotics pioneers affiliated with the company is Dr. Frederic Moll, the founder of Intuitive Surgical and “the father of robotic surgery”. Dr. Moll oversaw commercialization of da Vinci, and was an early investor in Avra Medical Robotics prior to the merger with SS Innovations, and more recently invested in the merged company, and remains active with the company. In addition, founder and CEO Dr. Sudhir Srivastava is a globally renown heart surgeon who was instrumental in the first medical robot cardiac approval from the FDA. The leadership team also includes experts in Artificial Intelligence (AI) and machine learning with significant experience in regulatory interactions, including with the FDA. The company also has access to distinguished industry leaders through its International Cardiac Surgery Advisory Board and Medical Advisory Boards.

In addition to ramping up commercial activities around the Mantra system, we see SS Innovations working to develop a comprehensive and holistic robotic surgery ecosystem to support enhanced global adoption of robotic surgery. The ecosystem would centralize patients, surgeons and a wide array of industry stakeholders and beneficiaries. We also expect the company to achieve additional milestones over the near-term, including advancing the development of Mixed Reality based Robotic Surgery Applications for teaching, training, patient education and portable telesurgery.

## COMPETITIVE ADVANTAGE

In our view, the Mantra’s robotic system has several key areas of differentiation that represent competitive advantages that should support a robust commercial outlook in the global marketplace.

First, the Mantra system is significantly more favorably priced compared with the da Vinci top model Xi system. Currently, Mantra’s sale price in India and surrounding countries is approximately \$600,000, compared with \$1.5 to \$2 million dollars depending on import costs in various jurisdictions, a cost price advantage of up to 70%. The company expects that the operating and maintenance costs would be approximately one-third of those related to da Vinci,

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PEER COMPARISON											
Company	Ticker	Recent Price (\$)	52-Week High (\$)	52-Week Low (\$)	Mkt. Cap (\$MIL)	1-yr Price Change (%)	1-yr Rev Growth (%)	1 YR EPS Growth (%)	P/E Ratio	Beta	Yield (%)
SS INNOVATIONS INTL	OTCPK: SSII	11.00	18.00	4.00	1608	NA	NM	NM	NM	NA	NA
INTUITIVE SURGICAL INC	NASDAQ: ISRG	294.49	358.07	180.07	103551	58	9	NM	80.7	1.30	NA

which we think limited use of the Da Vinci machines. We believe this positions Mantra favorably for robust global uptake, given the price sensitivity of many global markets, including India, Asia, Central and South America, Eastern Europe and Africa. Although we see potential for established markets such as the US and Europe, as well as some emerging markets to provide pricing power, we expect Mantra to remain among the more cost-effective robotic devices on the market, thus expanding the surgical robotic market to include those hospitals and healthcare systems who could not previously afford to participate.

On top of the cost-effective value proposition of the SSI Mantra system, validation that the Mantra system received from key surgeons across India's hospital network, including those who do a high volume of cardiac procedures, affirms our confidence in the product. Mantra has been rated on par with da Vinci in terms of the technology as well as its user-friendly versatility to surgeons and their teams.

In addition, major industry players including Johnson & Johnson have suggested that they will not be seeking to enter the market over the next few years, thus enhancing SS Innovation's prospects to emerge as an early competitor to da Vinci for soft tissue applications. For hard tissue applications including knees, hips and the spine, Medtronic and Stryker remain entrenched market leaders.

In our view, SSI Mantra's design provides surgeons with many advanced tools. The system features larger sized (32 inch, 4K resolution) 3D monitors and open-face consoles, so surgeons and the surgical team can have an enhanced vision of the entire surgical area. Utilizing head tracking cameras, the platform's safety and efficiency is further enhanced. By contrast, da Vinci utilizes a smaller viewfinder, 720p resolution, and secondary 2D monitors, which can limit depth perception from the table-side teams during surgeries.

Another key feature of the SSI Mantra system is the optionality of the robotic arms, as the system supports the use of three, four or five arms that are mounted on a separate motorized port for enhanced flexibility based on an individual surgery. In contrast, the larger da Vinci system features four arms mounted on one central beam, with no option for a fifth arm, and many other systems have restrictions of use for their fourth arm. Importantly, the fifth arm capability allows Mantra to perform cardiac surgeries, a high demand market with no current solution. In our view, Mantra's ability to leverage the fifth arm and 3D imaging to perform multiple specialty applications, including the full spectrum of cardiac surgeries as well as surgeries in the lung, is underappreciated. We note that da Vinci saw poor adoption for cardiac use early in its commercial cycle, given the nascent technology at the time and the inherent high risk associated with cardiac surgery, which led to its development and primary use in other indications, predominantly in the urology, general surgery and gynecology markets.

In addition to its cost-effectiveness and hardware attributes, the SSI Mantra system has been designed to be innovative in its software and technology capabilities, which we think represent additional competitive advantages over da Vinci and other peer systems. As mentioned earlier, the inclusion of AI holds the promise to improve system performance over time as more data is collected, thus, potentially reducing human errors to improve outcomes.

SS Innovations is also developing the capacity to decentralize the delivery of surgical care, which we believe could eventually enable remote usage over 5G networks for applications such as tele-proctoring and tele-mentoring. Looking ahead, enabling telesurgery provides smaller healthcare centers with state-of-the-art care capabilities for their patients without requiring surgeons to be on-site at more rural locations. Previously, the costs associated with the need for on-site staffing contributed to the prohibitive and inconsistent use of robotic systems.

Over time, we see the SSI Mantra product mix diversifying amid increased usage in applications including oncology, head and neck and cardio thoracic uses. SS Innovations believes that Mantra's unique positioning can address much larger target markets, in terms of patients as well as revenue market sizes. Moreover, we believe that larger procedure volumes over the next few years will further validate the platform, and provide additional evidence that could potentially accelerate its regulatory review in the US and in European markets as well.

As Mantra likely penetrates the market, we would expect its capabilities to potentially attract the interest of a global medical device company for possible acquisition. Although M&A activity across the Medical Device and the broader MedTech industries has been lackluster over the past two years, recent industry research from sources including Ernst & Young suggest that potential Med-Tech acquirers had a record high of roughly \$500 billion in financial firepower as recently as the end of 2021. Over the past few years, larger industry players have initiated restructuring and operational streamlining in order to maintain healthy capital positions.

However, we note that the medical robotics arena has seen attractive acquisition targets over the past decade, with acquirers including Johnson & Johnson, Medtronic, Stryker and Siemens, while private equity and investors have included Bill Gates, Tennen Holding, SoftBank, Ally Bridge Group, and CTIC, among others. However, we think that many of these companies have struggled to successfully integrate robotics into their core operations and idled certain product development plans. In contrast, we believe that successful global deployment of the Mantra system would enhance its attractiveness to potential acquirers.

Lastly, we view favorably SS Innovations' IP portfolio, which consists of 88 combined patents, designs, copyrights and trademarks filed, with 26 granted, as of September 2023.

## ANALYST COMMENTARY: EARNINGS

SS Innovations completed its merger with Avra Medical Robotics in April 2023 and trades on the OTC Market under ticker symbol "SSII". We expect the company to pursue a NASDAQ listing in the coming quarters, and to pursue additional financing opportunities to fund its growth.

As of June 30, 2023, the company reported year-to-date revenue of \$3.1 million, and \$5.5 million in current assets, consisting of \$423,000 in cash, \$1.1 million in accounts receivable, \$2.6 million in inventories and \$1.4 million in pre-paid/other assets. As of June 30, 2023, it had a working capital deficit of roughly \$2.9 million and an accumulated deficit of \$19.1 million. We note that revenues, working capital and accumulated deficit figures reflect a \$0.9 million GAAP revenue recognition adjustment which, if excluded, would have enhanced results accordingly.

In our view, SS Innovations remains at the early stages of growth, as it begins to monetize the total of nine SSI Mantra systems that have been sold and installed, as of June 30, 2023. For the first half of 2023, gross margins on these system sales were approximately 20%-25%, (41% if excluding the \$0.9 million revenue recognition adjustment, as mentioned above), which we expect to increase significantly as the company scales operations and lowers its cost basis by ordering components in bulk, and by bringing functions including machinery and tooling in-house. Further, we estimate that the company's operational breakeven point is around three systems sold per month, while its monthly manufacturing capability is around 20 systems per month.

We expect revenue recognition to be variable for the initial installations, as these systems come online. The company has employed various revenue models, including capex models, down payments with five-year payoffs, pay per use, credit and upfront payments. Over the second half of 2023, we see potential for an additional 10-15 orders to infuse additional capital into the company, as the deals are completed.

While we expect the company to continue to pursue additional financing opportunities as mentioned above, the company executed on a convertible promissory note in April 2023 with CEO Dr. Sudhir Srivastava for advances up to \$20 million in working capital support through the end of 2023. As of June 30, 2023, there were \$1,225,000 in advances outstanding. In addition, the company has a roughly \$5.0 million bank overdraft facility with HDFC Bank that is secured by all of the current assets of the company as well as by financial guarantees in the form of fixed deposits of \$4.6 million provided by CEO Dr. Sudhir Srivastava.

In terms of headcount, SS Innovations plans to increase the number of employees by approximately 25% to 200 by year-end, which we expect to be primarily driven by the manufacturing of additional systems. The company potential growth underscores its need to raise additional capital. We are encouraged by the nearly 80% of its staff consisting of engineers, which we think bodes well for the company maintaining a technological edge.

We see the company as well positioned to support a lower operating expense structure by arranging much of its sales efforts through partnerships, local distributors and direct sales. It can mostly conduct training and engineering support remotely. These operating models should be more cost effective than setting up infrastructure using internal resources.

As of June 30, 2023, there were 146.2 million common shares outstanding, while the company has issued 5,000 preferred shares, which carry majority voting rights.

## MANAGEMENT

Dr. Sudhir Srivastava serves as chairman and chief executive officer of SS Innovations. He is recognized as a national and international expert in minimally invasive and off-pump cardio thoracic surgery, who is frequently an invited speaker for various national and international forums and has received numerous awards. Dr. Srivastava developed the ThoraCAB surgical procedure, which is minimally invasive approach to cardiac bypass surgery and performed the world's first Quadruple Bypass on a beating heart

utilizing robotic assistance. Dr. Srivastava has performed over 1,350 robotic cardiothoracic surgical procedures and trained over 300 surgical teams.

Dr. Vishwa Srivastava serves as president and chief operating officer, and is also a director. He has more than 15 years of expertise in the field of surgical robotics with experience that spans clinical applications, teaching and training, tele-mentoring platforms, web-based surgeon didactic training modules, digital media and marketing. He joined the company as president and COO for South Asia in 2020, and previously served as president of OMNI 3DHD where he led the development of a secondary 3D Visualization System that was designed to provide 3D vision to robotic surgical teams.

Mr. Anup Sethi serves as chief financial officer of SS Innovations. Previously, he served as CFO of International Oncology Services Private Limited. Mr. Sethi has over 15 years of healthcare industry experience in a career that spans corporate finance, corporate planning and strategy, accounting, banking and treasury, business development and international operations, both in India and abroad. Previously, he held senior management positions with national business houses like Fortis Healthcare, Apollo International (an Apollo Tyres Group Company) and Vardhman Group.

## RISKS

Risks of an investment in SS Innovations include its reliance on raising additional funding to complete R&D, regulatory and commercialization targets in order to generate self-sustaining revenue and cash flow requirements. In addition, the company will need to retain skilled engineering talent and engage with third-party contractors, distributors and commercial partners that maximize the market opportunity for the SSI Mantra and other technology assets.

## RECENT DEVELOPMENTS

In our view, SS Innovations has made significant progress in the year-to-date towards executing its long-term business plan. As mentioned earlier, the company completed its merger with Avra Medical Robotics, in April 2023 and began trading its common stock on OTC Markets under the ticker symbol "SSII". The deal resulted in Avra holders owning 5% of the outstanding post-merger shares with Dr. Sudhir Srivastava as its controlling shareholder.

In October 2023, SS Innovations appointed Colin Eke as Senior Vice President of Global Business Development. Mr. Eke's career, which spans more than 30 years, includes direct medical device and surgical robotics industry experience with roles at leading global surgical robotics companies including Intuitive Surgical and CMR Surgical.

In August 2023, SS Innovations announced the delivery of its first international order to Aster Hospital, a premier hospital in Dubai, United Arab Emirates. The hospital is part of a multinational, for-profit hospital network that operates 32 hospitals and other healthcare facilities in six countries.

To date in 2023, the company has achieved a series of successful surgery milestones and validations of the SSI Mantra. In September 2023, Dr. Sudhir Srivastava performed the world's first Beating Heart Totally Endoscopic Coronary Artery Bypass (TECAB), one of the most complex surgical approaches in Cardiac

Surgery, using the SSi Mantra. The minimally invasive procedure is performed on a beating heart through tiny ports in a closed chest, without the need for a cardiopulmonary bypass machine.

In June 2023, SS Innovations announced the successful completion of a lung surgery using the system at the prestigious National Institute of Tuberculosis and Respiratory Diseases (NITRD), India's first Central Government Institution to purchase Mantra system, and the first Indian hospital with national status to conduct robotic surgery using the system.

In May 2023, the SSi Mantra was utilized to perform successful complex cardiac, lung, head and neck surgeries, as well as the first pediatric urology surgery. The cardiac surgery, which was the world's first robotic cardiac surgery using the Mantra, was performed by CEO and Chairman, Dr. Sudhir Srivastava, who also taught many of the senior surgeons, fellows and residents the techniques that he had pioneered. Earlier in 2023, SSi Mantra was utilized to successfully perform its first pediatric pyeloplasty surgery, first head and neck surgery, and thymectomy surgery.

Steve Silver,  
Argus Research Analyst

**INCOME STATEMENT**

<b>Growth Analysis (\$Mil.)</b>	<b>Q1 2023</b>	<b>Q2 2023</b>
Revenue	1.5	1.6
Gross Profit	0.5	0.2
Operating Expenses	1.4	2.0
Operating Income	-0.9	-1.8
Interest Expense	0.0	0.0
Pretax Income	-1.0	-1.9
Tax Rate (%)	NA	NA
Net income	-1.0	-1.9
Diluted Shares	NA	133.8
EPS	NA	-0.01
Dividend	NA	NA
<b>Growth Rates (%)</b>		
Revenue	NA	NA
Operating Income	NA	NA
Net Income	NA	NA
EPS	NA	NA
<b>Valuation Analysis</b>		
Price (\$): High	NA	NA
Price (\$):Low	NA	NA
PE: High	NA	NA
PE: Low	NA	NA
PS: High	NA	NA
PS: Low	NA	NA
Yield: High	NA	NA
Yield: Low	NA	NA
<b>Financial &amp; Risk Analysis (\$MIL)</b>		
Cash	NM	0.4
Working Capital	NM	-2.9
Current Ratio	NM	0.7
LTDebt/Equity (%)	NM	NM
Total Debt/Equity (%)	NM	NM
<b>Ratio Analysis</b>		
Gross Profit Margin	NM	NM
Operating Margin	NM	NM
Net Margin	NM	NM
Return on Assets (%)	NA	NA
Return on Equity (%)	NA	NA
Op Inc/Int Exp	NA	NA
Div Payout	NA	NA

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