# Intuitive Surgical, Inc. (ISRG)

**BUY: S$677.00 (+22.8%)**

NUS INVESTMENT SOCIETY

Equity Research Department – Healthcare | 9 November 2019


**Analysts**

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**Basic Information**

| | |
|---|---|
| Last Closed Price | S$551.33 |
| 12M Target Price | S$677.00 |
| +/- Potential | +22.8% |
| Bloomberg Ticker | ISRG |
| GICS Sector | Healthcare |
| GICS Sub-Industry | Equipment and Services |

**1Y Price v Relative Index (S&P500)**


**Company Description**

Intuitive Surgical designs, manufactures and markets surgical systems, offering many instruments and accessories to be used during surgeries with their systems. They are well penetrated in hospitals worldwide.

**Key Financials**

| | |
|---|---|
| Market Cap | 63.89B |
| Basic Shares O/S | 115.6M |
| Free Float | 99.05% |
| 52-Wk High-Low | US$430.24 - US$589.32 |
| Fiscal Year End | 31-Dec-2018 |

| (S$ M) | FY18A | FY19E | FY20E | FY21E |
|---|---|---|---|---|
| Revenue | 3724.2 | 4485.7 | 5489.3 | 6799.2 |
| *Gr Rate (%)* | 18.7 | 20.4 | 22.4 | 23.9 |
| EBITDA | 1367.4 | 1568.8 | 1829.0 | 2350.2 |
| *Margin (%)* | 36.74 | 35.0 | 33.3 | 34.6 |
| Net profit | 1125 | 1166.5 | 1340.8 | 1714.4 |
| *Margin (%)* | 30.2 | 26.0 | 24.4 | 25.2 |

**Key Executives**

**Gary S. Guthart** — **Chief Executive Officer**

Guthart has more than 25 years of medical, engineering, scientific, and management experience and has been with Intuitive since its inception in 1996.

**Marshall L. Mohr** — **Chief Financial Officer**

Mohr has a rich background in healthcare, technology and financial services, serving as an Audit Partner with PxC and CFO of Adaptec, Inc. prior to joining Intuitive.

We are initiating coverage of Intuitive Surgical with a BUY rating and a $677.00 12m price target.

## 3Q19 Earnings Highlights

- Revenue at $1.1 billion, up by 23% from 3Q18 (with outside-US revenue at $332m, up by 36% from 3Q18); higher Q3 revenue was driven by increased procedures & systems placements.
- Instrument and accessory revenue increased by 25% to $606 million, compared with $486 million in 3Q18, primarily driven by nearly 20% growth in da Vinci procedure volume. Systems revenue increased by 23% to $339 million, compared with $275 million in 3Q18, primarily driven by increased shipments of da Vinci systems.
- Procedural growth at 20%, with US y-o-y procedural growth at 18% and outside-US procedural growth at 23% y-o-y. Strong performance attributed to exponential growth in general surgery and steady growth from urology and gynaecology.

## Investment Thesis

- Intuitive is well-positioned to capture the growing market for minimally invasive surgeries; it has already captured the lion's share of the market with its first-mover's advantage and high barriers to entry (arising from extensive clinical research on da Vinci systems, high switching costs for hospitals and a unique staff training ecosystem) makes the company difficult for competitors to challenge head-on.
- Recurring revenue sources from services and accessories provision solidifies company's revenue stream in the long run to support steady revenue growth. Recurring revenue sources are only expected to carry higher margins over time with Intuitive's lease and financing business model and strong projected growth.
- Intuitive boasts strong product lineups with aggressive R&D, such as its newly-introduced Ion endoluminal systems. This encourages the continued adoption of their devices. The company heavily reinvests its earnings for R&D, most recently investing 12% of their total revenue into R&D in 3Q19.

## Catalysts

- The industry is moving towards intelligent robotic surgery within the next year as major industry players enter the market.
- Ion endoluminal systems user base to grow rapidly within the next year with da Vinci surgical systems as a springboard.

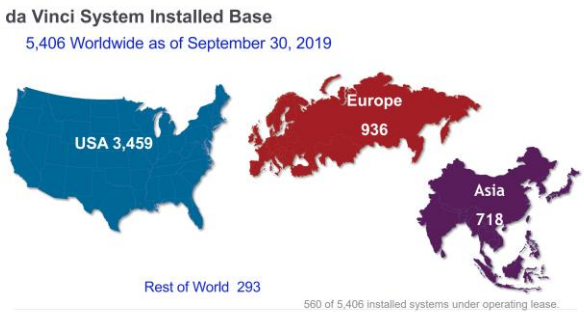
## Valuations

Our 12M price target from date of coverage is **$677.00.** Valuation was derived through a DCF model, using an EV/EBITDA exit multiple method. Relative valuation was not used as Intuitive operates in a niche market, and has a much higher growth potential than its industry peers.

## Investment Risks

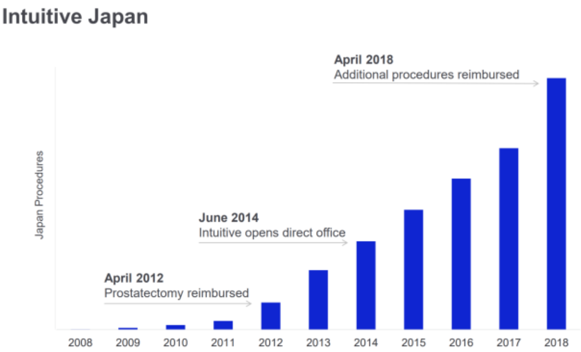
- **Entry of competitors:** Major industry players are beginning to enter the market, threatening Intuitive's market dominance
- **Slower than expected growth:** Current price metrics are high compared to other industry players. Thus, slower-than-expected growth would cause Intuitive to miss expectations.
- **High-stakes industry:** News of medical accidents and failed surgeries spreads extremely quickly in the community. ISRG's brand-name and reputation are crucial to its prolonged success. Thus, it is susceptible to being hindered by unforeseen medical complications.

**Figure 1. Installed Base of da Vinci Systems by Geography**



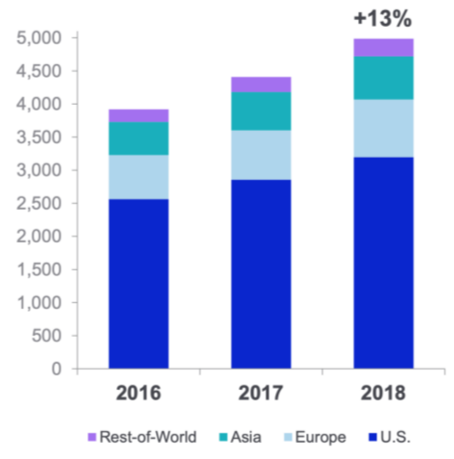

*Source: Intuitive Surgical 3Q19 Presentation*

**Figure 2. Intuitive's Procedural Growth in Japan from 2008 to 2018**




*Source: Intuitive Surgical 3Q19 Presentation*

**Figure 3. YoY Growth in Total Installed Systems**




*Source: Intuitive Surgical 3Q19 Presentation*

## Company Overview

Intuitive Surgical Inc. is an American medical device company that specializes in robotic products used in minimally invasive surgery, with its well-known da Vinci surgical system and more recently, its Ion endoluminal systems for lung biopsies and its SureForm 45 portfolio for thoracic procedures.

The development of Intuitive's hallmark da Vinci Surgical System started back in the 1980s, at a non-profit research institute, SRI International. The development of a prototype robotic surgical system by the SRI caught the attention of John Freund, who acquired the intellectual property for the system and subsequently incorporated Intuitive Surgical Devices Inc along with his partners, Frederic Moll and Robert Younge. The SRI Systems were then refined into a working prototype ready for testing in 1997. After the testing phases, the da Vinci systems were finally released to market in 1999.

With its flagship da Vinci surgical systems, Intuitive Surgical dominates in the robotic surgery space, and is currently the market leader. Since then, more than 5,270 da Vinci systems have been installed worldwide, making it the most popular robotic surgery system.

Beyond its da Vinci surgical system, Intuitive has diversified its portfolio with the recent release of its Ion endoluminal system, a robotic-assisted platform for minimally invasive biopsy in the lung, as well as with its SureForm portfolio of surgical staplers, which are also compatible with its da Vinci surgical systems.

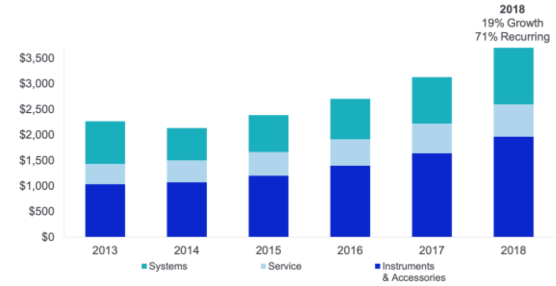
Intuitive is more exposed to the US market, although it is attempting to break into the Asian market. Currently, 64% of Intuitive's installed da Vinci systems are based in the US, but more recently, the company has been moving towards expanding in China and Japan. The company invested in China through Intuitive Fosun, a joint venture with Fosun Pharmaceutical starting from 1Q19. Intuitive's procedural growth has also been increasing exponentially in Japan, signifying strong growth potential in these markets.

Intuitive Surgical Inc. is primed for exponential growth in the nascent robotic surgery market, evidenced by its consistently strong earnings in recent years, and promise for even greater growth in subsequent quarters with its earnings guidance.

### 3Q19 Earnings Review

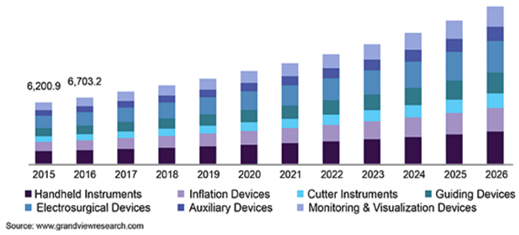
- Revenue at $1.1 billion, up by 23% from 3Q18 (with outside-US revenue at $332m, up by 36% from 3Q18); higher third quarter revenue was driven by increased procedures and systems placements.
- Instrument and accessory revenue increased by 25% to $606 million, compared with $486 million in 3Q18, primarily driven by nearly 20% growth in da Vinci procedure volume.
- Systems revenue increased by 23% to $339 million, compared with $275 million in 3Q18, primarily driven by increased shipments of da Vinci Surgical Systems.
- Procedural growth at 20%, with US y-o-y procedural growth at 18% and outside-US procedural growth at 23% y-o-y. Strong performance attributed to exponential growth in general surgery and steady growth from urology and gynaecology.
- For 4Q19's earnings guidance, procedure growth is expected to be between 17% and 18%, while gross profit margin is expected to be between 71% to 71.5% of net revenue. Operating expense is expected to grow between 24% to 27%.

**Figure 4. Total Revenue Breakdown by Sources**




*Source: Intuitive Surgical 3Q19 Presentation*

**Figure 5. Growth in Minimally Invasive Surgery Market in the US**



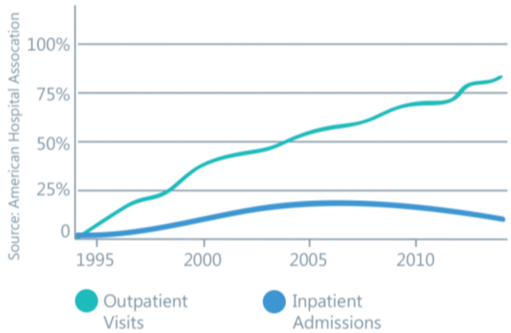

*Source: Grand View Research*

**Figure 6. Safety Advantages of Robotic Surgery against Traditional Surgery**

| Type of Operation | Advantages |
|---|---|
| Fundoplication | a) Easier and safer tissue dissection through the narrow hiatus in cases of hiatal hernia or upside-down stomach<br>b) Beneficial in the fundus dissection with respect to the adjacent spleen<br>c) Easier intracorporeal knotting during hiatoplasty and fundoplication |
| Thymectomy | Easier tissue dissection in the upper anterior mediastinum guarantees a radical thymectomy |
| Colorectal surgery | Better dissection of rectum in a narrow pelvis with complete total mesorectal excision |

*Source: Surgical Laparoscopy Endoscopy & Percutaneous Techniques (Medical Journal)*

**Figure 7. Trends in Outpatient and Inpatient Visits**




*Source: AHA Data*

## Industry Outlook

**Burgeoning demand for low-risk, minimally-invasive surgery**

The minimally invasive surgery market is projected to expand from US$36.5 billion in 2018 to US$58.2 billion in 2024, growing at a CAGR of 8% until 2024, due to the growth in demand for low-risk surgeries with minimal surgical trauma.

This is largely due to a rapidly aging global population across the U.S., Europe, and Asia. Because older people tend to require surgical procedures more frequently, the demographic trends should translate to higher demand for robotic surgery. Additionally, cancer and cardiovascular diseases are also associated with age, and hence it is expected that there will be an increasing prevalence of such diseases.

The combination of the emerging geriatric demographic and the nature of the diseases associated with them requires for precise and low-risk surgeries with minimal surgical trauma, which minimally invasive surgeries can provide. Robotic systems like those pioneered by Intuitive can increase surgery success rates through greater surgical precision and reduced surgical trauma. Given that the market for minimally invasive robotic surgeries is still at a nascent stage, it is expected to experience exponential growth in the next few years, especially with the entry of major industry players like Medtronic's Hugo systems in 2020.

**Physician-owned surgical centres unlocking incremental new demand for Minimally Invasive Surgery Market**

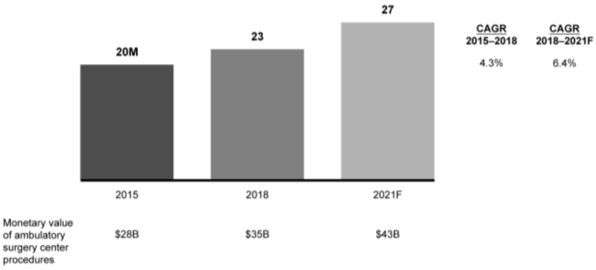
Growing healthcare costs has raised concerns about the financial sustainability of healthcare systems in light of aging populations, which has led to a global shift in health focus from secondary care (delivery of healthcare services by hospitals and specialists) to primary care (delivery of healthcare services in outpatient settings). Subsequently, the emphasis on healthcare delivery has also shifted from major healthcare institutions to general practitioners and physician-owned ambulatory surgical centres in the heartlands. Cannibalisation from hospitals is also projected to be minimal since there is incremental demand in the primary care sector arising from the aging population while hospitals continue to run at near full capacity.

This trend highlights that the total addressable market for physician-owned surgical centres is only expected to increase further. Such surgical centres will be expected to house more sophisticated medical devices to keep up with the demands of patients, and with a greater number of patients, they will also be able to afford such equipment due to lower unit costs per surgery in the long run. Therefore, demand for robotic surgery systems by physician-owned surgical centres is projected to increase dramatically within the next few years. In the U.S. alone, there are more than 5,000 clinics without any robotic surgery programs, highlighting a large unpenetrated market. The number of clinics is also expected to increase by more than 80% within the next year, highlighting strong growth potential beyond the existing unpenetrated market.

## Porter's Five Forces

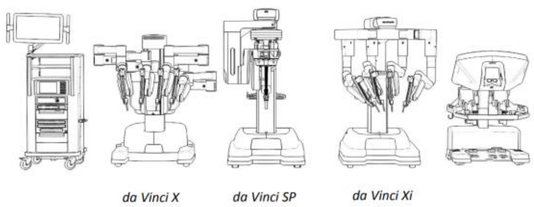
To succinctly analyse the competitive landscape based on the factors introduced in the company overview and industry outlook, Porter's Five Forces was used. Competition within the industry is currently low since Intuitive holds a virtual monopoly in the market, which also leads to low bargaining power of consumers. Threat of new entrants will be moderate, since major industry players like Medtronic are

**Figure 8. Growth in Ambulatory Surgical Centres**



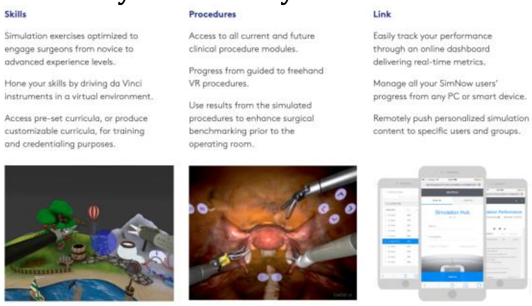

*Source: Bain and Company*

**Figure 9. Extensive da Vinci Product Line**



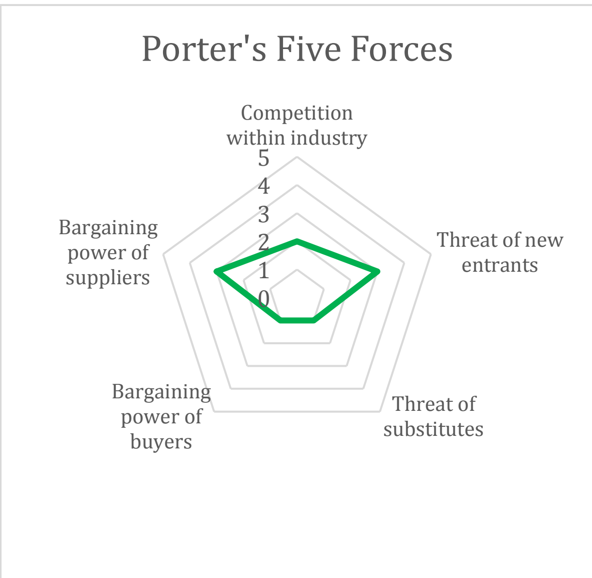

*Source: Intuitive Surgery 2017 Annual Report*

**Figure 10. SIMNow by da Vinci, an AR Simulatory Education System**




*Source: Intuitive Surgical Website*

**Figure 11. Porter's Five Forces**




*Source: NUS Investment Society Estimates*

beginning to enter the market, but the number of new players entering in the near future will be limited by high barriers to entry. Other dimensions are further analysed below.

**Competition within industry - Low**
As covered in the above sections, Intuitive's da Vinci systems are currently the most popular robotic surgery systems of any kind globally. The market is currently a virtual monopoly with the absences of significant competitors challenging Intuitive's foothold in the market. As such, competition within the industry is low.

**Threat of new entrants - Moderate**
As the demand for low-risk, minimally-invasive surgeries continue to grow in the recent years, major industry players in the medical device market has been eyeing the supernormal profits that Intuitive has been reaping. Furthermore, most of Intuitive's major patents that have been protecting their monopoly position thus far have expired in 2016 and 2018. This allows for their competitors with the financial muscle and research technology to enter the market and acquire Intuitive's market share. However, with the high barriers to entry given the high investment outlay required for developing new systems and breaking through Intuitive's brand reputation, only a few large industry players are expected to enter the market (e.g. Medtronic's Hugo). Therefore, the threat of new entrants is moderate.

**Threat of substitutes - Low**
With the high costs involved in developing robotic systems through rigorous R&D efforts, it is not easy for consumers (i.e. both public and private healthcare institutions) to substitute the products/services that Intuitive currently provide. Currently, there are patents that Intuitive has applied for that protects the production process of certain accessories that allow for system improvements. The patents will make substituting the new products that Intuitive rolls out difficult. Additionally, the lack of competition at the moment also makes it difficult for consumers to search for substitutes. Thus, the threat of substitutes is low.

**Bargaining power of buyers - Low**
Given that Intuitive is the main sole provider of robotic surgical systems at the moment, it is difficult for buyers to negotiate on prices with regards to the purchase/leasing of surgical systems as well as the services/accessories that come with them. Even with the entry of other competitors in the near future, the industry will still be dominated by major industry players in an oligopolistic fashion, and hence the bargaining power of consumers is likely to remain low.

**Bargaining power of suppliers - Moderate**
With few suppliers in the market robotic surgical systems are still at the point of inception, Intuitive is quite dependent on such suppliers to produce its systems. However, Intuitive is also the sole buyer of such system parts, making these suppliers dependent on Intuitive as well. This mutual dependence means that bargaining power of suppliers is neither high nor low.

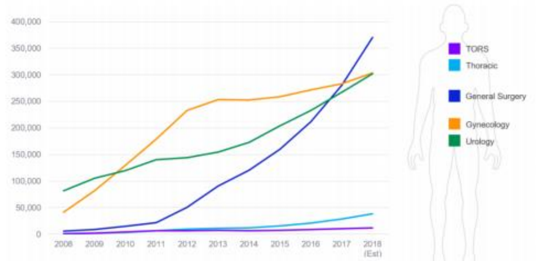
## Investment Thesis

**1. Intuitive is the current market leader and is well-positioned to capture the burgeoning market for minimally invasive surgeries**

First-mover advantage

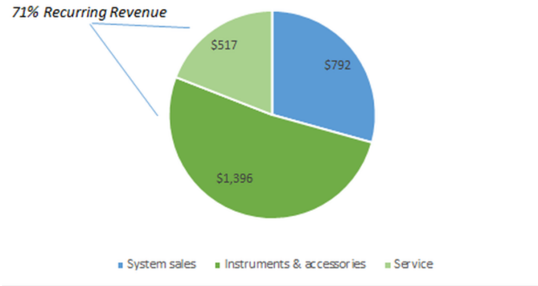
Intuitive is the market leader in the robotic surgery space, a result of its first-mover advantage when it launched its flagship product suite,

**Figure 12. Global Growth in Procedure Categories over the last 10 years**




*Source: Intuitive Surgery 2018 Annual Report*

**Figure 13. Proportion of Recurring revenue**




*Source: Fool*

**Figure 14. Growth in Revenue while average price per unit decreased.**


*Source: Forbes*

**Figure 15. Intuitive Surgical's offerings for accessories.**

*Source: Intuitive Surgical Catalog*

the da Vinci surgical system, in 1999. The da Vinci system is the most popular robotic surgery system of any kind globally.

Building on its strong user base for the da Vinci surgical system, Intuitive also managed to quickly capture users with its diversified product portfolio which consists of the Ion endoluminal system and its SureForm portfolio of surgical staplers.

With strong flagship products in its portfolio in the field of minimally invasive surgeries, Intuitive has a 70% market share in the market for such robotically-assisted medical procedures.

<u>High switching costs</u>

Intuitive maintains its monopoly with both natural and artificially-engineered barriers to entry. Intuitive's surgical systems involve high sunk costs upon adoption, as implementing such sophisticated systems is extremely costly in terms of the up-front cash outlay and time taken to train staff. Given that da Vinci systems have already been implemented across many hospitals, switching to another system at this juncture cannot easily be justified.

<u>Existing testimonies of product efficacy</u>

Additionally, a wealth of research supports the clinical efficacy and safety of da Vinci systems, as opposed to new competitors that may enter the market. The da Vinci systems have a trove of clinical research across two decades with more than 6 million procedures performed to date, and there are more than 18,000 peer-reviewed scientific articles published regarding its usage. Competitors will struggle to convince doctors to perform surgeries on other systems, due to da Vinci's proven success in the area of robotic surgery.

<u>Strong ecosystem to ensure high customer retention</u>

Lastly, Intuitive introduces unique education methods for healthcare professionals utilising its surgical systems; it uses augmented reality devices and tele-mentoring systems to provide an immersive learning experience and real-time feedback. The implementation of augmented reality devices and tele-mentoring systems further increases the barrier to entry as healthcare professionals will be less inclined to switch to other systems after extensive education.

**2. Recurring revenue streams are taking up larger portions of revenue as opposed to one-off device sales, highlighting strong and steady revenue streams in the next few years with a push into better margins.**

To hedge against the potential risk of revenue streams being cut off after purchase of devices, Intuitive ensures that it has recurring revenue sources. Currently, only 29% of its revenue are from device sales, and roughly 71% are from recurring sources (add-on services and replacement instruments/accessories).

One major recurring revenue driver is the services Intuitive provides to its customers in exchange for annual payments and amounts to 17% of its revenue. Services include full-time installation support, as well as repairs and maintenance. Trainings for surgeons on operating the relevant devices also fall under this category of recurring revenue. Service contracts that usually last 5 years at the time systems are sold at an annual fee between $80,000 and $190,000, depending upon the configuration of the underlying system and composition of the services offered under the contract. The long duration of such service contracts also creates high revenue visibility for Intuitive.

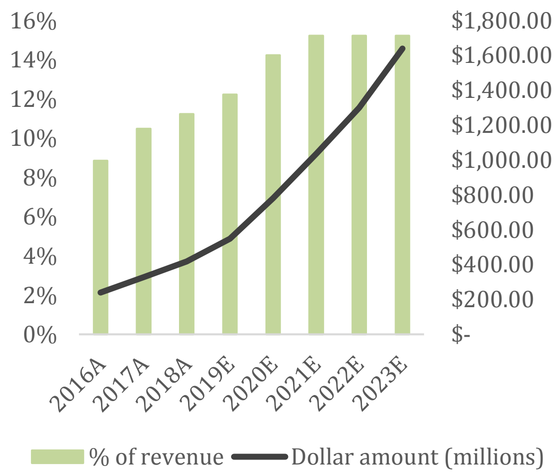
**Figure 16. Intuitive Surgical's new da Vinci SP robot.**

*Source: Intuitive Surgical Website*

**Figure 17. Intuitive Surgical's SureForm stapling.**

*Source: Intuitive Surgical Website*

**Figure 18. Intuitive Surgical research and development expenditure historical results and projections.**




*Source: NUS Investment Society Estimates*

Intuitive Surgical provides a trade in scheme for their systems, pro rating the prices of the new products according to the value of the traded in system. This solidifies customer relationships, preventing hospitals from switching to their competitors when they enter the market, as Intuitive is able to provide best in class products by continual upgrading of their products in hospitals.
This is also an opportunistic avenue to upsell their products, where they can attempt to market tier 1 models when a hospital trades in their tier 2 system.

Another main source of recurring revenue is instruments and accessories supporting operating procedures that utilise Intuitive robotic systems. These instruments and accessories have to be constantly replenished after they are used in each operating procedure. Intuitive earns between $700 to $3,500 of instrument and accessory revenue per surgical procedure performed, depending on the type and complexity of the specific procedures performed and the number and type of instruments used, which amounts to 53% of Intuitive's total sales. The move to these higher margin, service-based revenue streams will also benefit the company's net margins.

Intuitive's unique business model has also created a new stream of recurring revenue through operating leases, where customers lease rather than buy new systems. While such leases reduce Intuitive's upfront revenue, it works towards increasing the company's revenue stream in the long run to ensure stable and sustained revenue.

As Intuitive continues to implement its systems across various medical institutions, these recurring revenue sources will eventually become a growing part of revenue as new device sales decrease over time.

**3. Proven track record of FDA approvals and strong product lineup spur widespread adoption of Intuitive's systems as the use cases of Intuitives products expand**

Intuitive has been investing aggressively in Research & Development (R&D) in recent years to expand its product suite and develop its existing portfolios. Most recently, it invested 12% of its total revenue into R&D, a testament to its determination to solidify its portfolio.

Despite da Vinci systems being in the market for two decades, the company is still building up the list of possible procedures that da Vinci can be used to perform. This highlights that robotic surgery is still at the point of inception, and Intuitive can still expand its market size with R&D to develop new applications for its use. Additionally, Intuitive continuously develops its da Vinci portfolio by introducing enhancements. For example, its da Vinci SP robot-assisted surgery device was recently approved for another indication from the Food and Drug Administration (FDA), where Intuitive quickly rolled out the device by expanding clinical clearances and building the device at scale.

Beyond its da Vinci surgical system, Intuitive also shows strong developments in its other portfolios, which are expected to capture large shares of the market in the next few years.

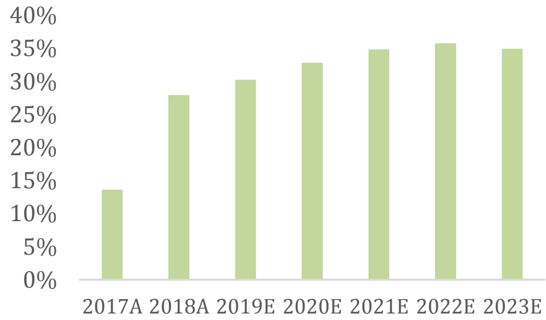
As part of its SureForm 45 portfolio which targets thoracic procedures, in July 2019, Intuitive received FDA clearance for the SureForm 45 Curved-Tip stapler, a single-use, fully wristed stapling instrument with a curved tip, and SureForm 45 Gray reload, a new, single-use cartridge that contains multiple staggered rows of implantable staples and a stainless steel knife.

Intuitive's new flexible, robotic-assisted, catheter-based platform for lung biopsies, the Ion endoluminal system, was also recently approved

**Figure 19. Intuitive's Ion endoluminal system.**

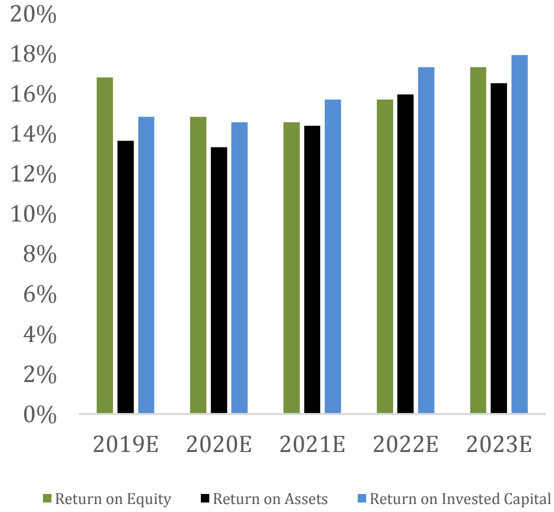
*Source: Intuitive Surgical*

**Figure 20. Historical and projected non-US revenue growth which includes contribution from Japan.**




*Source: NUS Investment Society Estimates*

**Figure 21. Strong projected growth for returns on assets and invested capital with stabilising of return of equity and strong growth pushing through from 2021-2023.**




*Source: NUS Investment Society Estimates*

in 2019. It managed to sell the first three Ion endoluminal systems in 3Q19, which will pave the way for further sales growth in 2020 as more healthcare practitioners are inspired by the device's initial success.

**Catalysts**

- Industry shift towards intelligent robotic surgery in the next year will cause demand for Intuitive devices to surge. The launch of competitor products (e.g. Medtronic's Hugo in 2020) in the next few years will likely inspire greater confidence in the robotic surgeries, further boosting demand for such devices.
- The commercial success of Ion endoluminal systems as consumer confidence increases within the next year will cause Intuitive's revenue to rise significantly.
- Rapidly increasing demand for surgical robotic systems in the Chinese market will undoubtedly increase Intuitive's foothold in the Chinese market within the next year, where the Chinese government is targeting to obtain 154 additional systems by the end of 2020.
- Growth in Japan is poised to do exceedingly well. The medical board in the country has recently cleared and approved the launch of the new 45mm SureForm stapler. Procedural growth in Japan has also done well historically and as confidence in the system grows, the number of surgeries done with Intuitive's systems will continue to grow exponentially.

## Financial Analysis

| **Financial Ratios** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Profitability | | | | | | | |
| Gross Margin | 70% | 70% | 71% | 72% | 74% | 76% | 76% |
| EBITDA Margin | 38% | 36% | 35% | 33% | 35% | 37% | 36% |
| EBIT Margin | 34% | 32% | 31% | 29% | 30% | 32% | 32% |
| Net Profit Margin | 21% | 30% | 26% | 24% | 25% | 27% | 27% |
| Return on Equity | 47% | 14% | 17% | 15% | 15% | 16% | 17% |
| Return on Assets | 11% | 17% | 14% | 13% | 14% | 16% | 17% |
| Return on Invested Capital | 12% | 17% | 15% | 15% | 16% | 17% | 18% |
| Liquidity | | | | | | | |
| Current Ratio | 34.05 | 43.03 | 48.28 | 52.32 | 58.12 | 64.64 | 66.04 |
| Quick Ratio | 3.87 | 4.78 | 5.23 | 5.49 | 5.76 | 6.00 | 6.14 |
| Cash Ratio | 0.98 | 1.05 | 1.97 | 2.65 | 3.26 | 3.81 | 4.19 |
| Shareholder Returns | | | | | | | |
| Earnings per Share (cents) | 5.77 | 9.49 | 9.82 | 11.29 | 14.43 | 19.24 | 24.27 |

**Overview**

The chart above shows ISRG's financial condition prospects for the next 5 years, highlighting our assumptions. Most indicators yield positive trends and are supportive of the overall BUY recommendation.

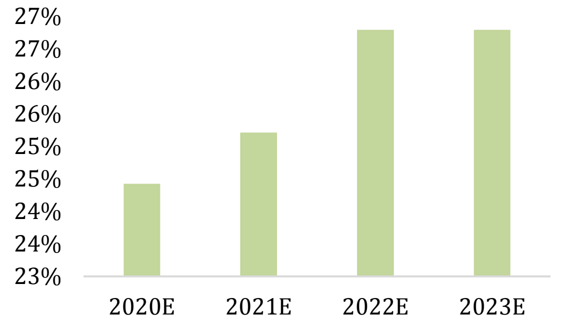
**Rising net margins**

With a shift in the revenue mix to include more service-based revenues, we expect ISRG to have a boost to its net margins in the near future. The current service revenues from servicing and maintenance have a higher gross margin than the product revenues from selling of systems. We see this increase in proportional revenues from service-based activities propelling ISRG to greater profitability.

**Strong balance sheet with no debt**

ISRG boasts of a balance sheet that features zero net debt. This puts the company in a favourable position to leverage in the future if they are required to do so. We believe gives ISRG the ability to acquire higher quality acquisitions and investments to enhance its portfolio.

**Figure 22. Rising net profit margins of the company projected 2020-2023.**



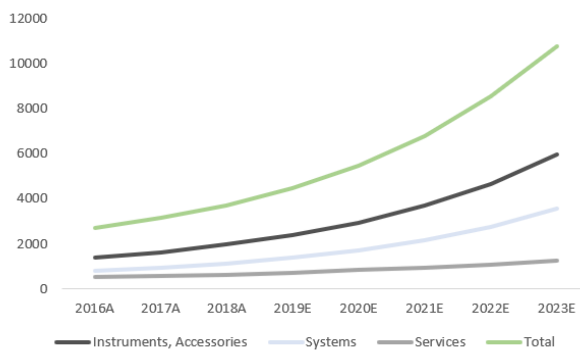

*Source: NUS Investment Society Estimates*

**Figure 23. Exit multiple calculations.**

| Target price (exit multiple) | | |
|---|---|---|
| PV of projected FCFF | | 5737.0 |
| Ending EBITDA | | 3924.4 |
| Exit multiple (EV/EBITDA) | | 25 |
| PV of TV | | 59196.0 |
| Cash (MRQ) | | 984.6 |
| | | |
| Equity Value | | 65917.6 |
| NOSH (MRQ) | | 119.3 |
| Implied fair value/share | $ | 552.54 |
| Last Close | $ | 551.33 |
| Implied Upside | | 0% |

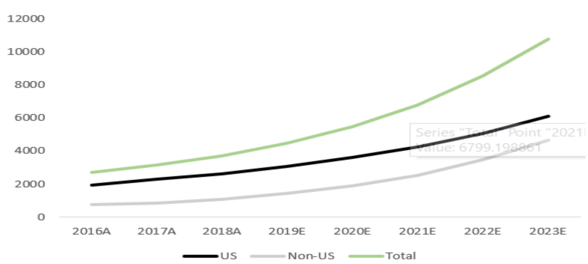
*Source: NUS Investment Society Estimates*

**Figure 24. Projected revenue growth by revenue stream as reported by Intuitive Surgical.**




*Source: NUS Investment Society Estimates*

**Figure 25. Projected revenue growth by US and non-US geographies.**




*Source: NUS Investment Society Estimates*

**Rising Net Margins and Higher Asset Turnover**

With the shift towards the sale of Intuitive's accessories and instruments, profit margins are set to grow due to the low cost in producing them. Furthermore, the growth in need of minimally invasive surgeries will allow for higher usage of Intuitive's surgical systems, thus propelling the usage of Intuitive's systems, increasing the revenue that each system can earn. This expands asset turnover rate.

## Valuation

Valuation Price Target: **$677.00**

**DCF Model**

A discounted cash flow model was used to estimate the intrinsic value of ISRG's share price. Our model adopts a 5-year forecast period; it may not be feasible to project revenue and margins beyond this timeline due to uncertainties in industry developments. We assumed no new acquisitions and divestments for the period forecasted. The model is driven by sales of Intuitive Surgical's product machinery as well as service and accessory revenues. On costs, cost of sales, R&D expenses, working capital and CAPEX serve as crucial parameters for our forecasts as they are vital for future margin expansions. We believe that R&D is crucial as being as the forefront of new technology requires investment in R&D to remain ahead. The DCF model was built following guidance from historical performance, annual reports and industry outlooks as well as earning calls guidance.

**Revenue Growth**

Our revenue growth is based on our outlook that accessory and services revenues will continue to shine and outgrow those of product revenues in the United States.

As for the outside-US market, we forecast that it will end up contributing a greater percentage of revenues as time progresses. This is due to the large opportunities in Japan and China that set a runaway for greater than proportional revenue growth. Growth in the OUS portion will mostly be generated from the sale of systems as it is still a young market, and Intuitive has not reached a similar level of installed units outside from the US at current.

Terminal growth was not used in the DCF model as the industry is likely to continuously outpace the standardised US economy even after the end of our projected period given the consistently growing need for new robotic systems in the burgeoning MIS market. Due to this, we expect that this sector will remain highly profitable and will only plateau beyond a decade or two. Therefore, an exit multiple method was used (EV/EBITDA) in the DCF model.

**Cost Analysis**

Historically, Intuitive surgical has had a balance in spending on COGS and operating costs. Cost of goods sold takes up around 48% of total expenditure historically due to high cost of producing new systems. Spending on CAPEX has been from 5%-9% in 2017-2019, compared to Medtronic's 12%-14%. Medtronic's larger percentage spending on CAPEX can be attributed to their large amounts of fixed assets which have been dedicated to developing new robotic systems. Intuitive's spending on Research and Development has been around 13%-16%. This can be compared to Medtronic, a new competitor, who is spending 7.4%-7.6% in 2017 to 2019. Evidently, Intuitive has been dedicating more resources to improve their products, putting priority

**Figure 26. CAPM breakdown.**

| CAPM | |
|---|---|
| Risk free rate | 1.91% |
| ERP | 8.72% |
| Beta | 1.30 |
| EMR | 8.62% |
| COE | 10.63% |
| Discount factor | 10.63% |

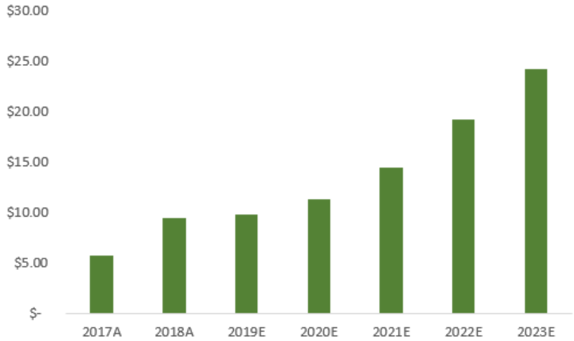
*Source: NUS Investment Society Estimates*

**Figure 27. Sensitivity table for projected share price, using cost of equity and exit multiple valuations as variables.**

| Sensitivity Analysis | | | | | | |
|---|---|---|---|---|---|---|
| | | COST OF EQUITY | | | | |
| | $ 552.54 | 9.83% | 10.23% | 10.63% | 11.03% | 11.43% |
| EXIT MULTIPLE | 23 | 530.94 | 521.83 | 512.91 | 504.18 | 495.63 |
| | 24 | 551.52 | 542.04 | 532.76 | 523.67 | 514.78 |
| | 25 | 572.11 | 562.25 | 552.61 | 543.17 | 533.93 |
| | 26 | 592.69 | 582.47 | 572.46 | 562.66 | 553.08 |
| | 27 | 613.28 | 602.68 | 592.31 | 582.16 | 572.22 |

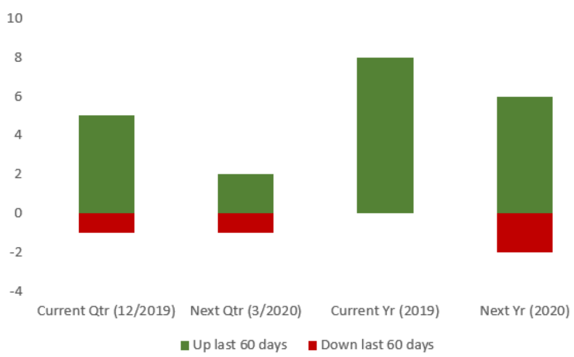
*Source: NUS Investment Society Estimates*

**Figure 28. EPS estimates for Intuitive Surgical.**




*Source: NUS Investment Society Estimates*

**Figure 29. Number of analyst upward/downward revisions for earnings estimates in the past 60 days for Intuitive Surgical.**




*Source: Zacks Investment Research.*

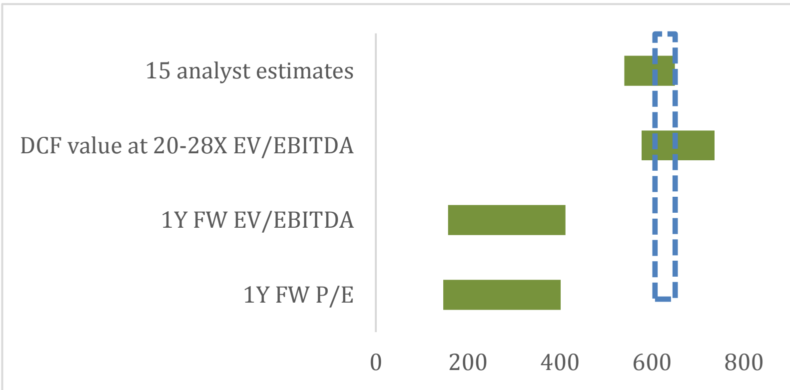
in constantly staying ahead of their competition. We expect that the percentage of R&D expenses to grow steadily in the next 5 years, as more competitors enter the Robotics market of the Minimally Invasive Surgery scene due to Intuitive's patent expiry. This has led us to believe that Intuitive's margin growth will plateau going forward.

**Weighted Average Cost of Capital (WACC)**

CAPM was used to estimate Cost of Equity. Risk free rate of 1.91% used which is in line with current yields on 10 year US treasury yields. Beta was taken from Bloomberg which stands at 1.30. An equity market risk premium of 6.71% used. After all these values were incorporated into the CAPM model, we arrived at our cost of equity of 10.63%. Since there is no cost of debt for ISRG, our cost of equity is equal to WACC which sits at 10.63%.

**Relative Valuation**

Relative valuation was also conducted to compare the above DCF valuations against industry competitors. We benchmarked Intuitive Surgical to industry peers that produce robotic surgical systems, with similar size. There is an exception to Johnson and Johnson, a highly diversified company that has an arm in the surgical industry. Our primary comparable metrics were the 1FY Forward P/E and 1FY Forward EV/EBITDA.



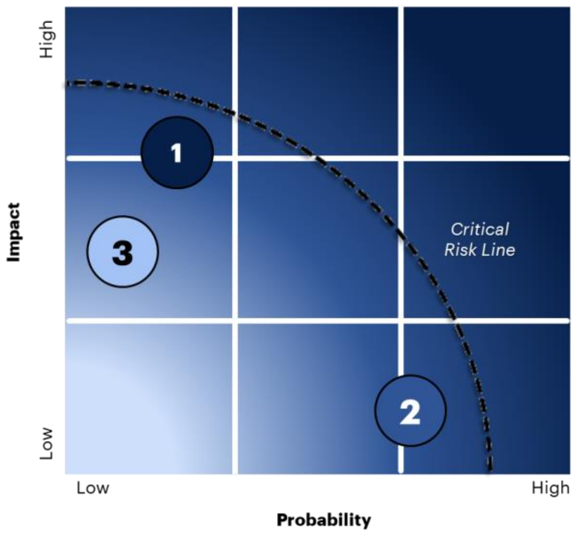

From the football field plot, it is noted that Intuitive Surgical trades at a high premium. This is likely due to its strong position as market leader in the robotic surgery field, amongst the other investment thesis covered above.

Additionally, it may not be meaningful to compare a rapidly growing company like Intuitive, to other major industry competitors which are experiencing plateauing growth rates. Intuitive Surgical has a PEG ratio of stands at 3.53, compared to the industry's PEG ratio of 2.86, which represents a comparatively lower premium. This premium is still justified given that the MIS market is likely to take off within the next year (refer to investment thesis and catalysts), which spells strong growth potential for Intuitive in the next few years.

Furthermore, the comparisons made are with large medical conglomerates that produce more than just robotic surgery systems which may have significantly reduced their trading multiples and ratios.

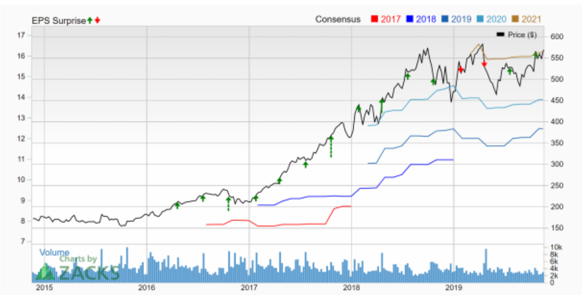
From our DCF valuation, the intrinsic value of $677.00 represents a 22.8% upside. Despite the fact that Intuitive appears to trade at a high premium (based on relative valuation), this premium seems to be justified, and hence a BUY recommendation is maintained.

**Figure 29. Investment Risk Matrix**




*Source: NUS Investment Society Estimates*

**Figure 30. Intuitive's Historical Earnings Beats and Misses**




*Source: NASDAQ, Zacks*

**Figure 31. Medtronic Hugo Robot-Assisted Surgery (RAS) Systems**

*Source: Medtronic*

**Figure 32. Dip in Intuitive Surgical's stock price in 2Q19**


*Source: Google Finance*

## Investment Risks

**1. Slower-than-expected growth**

As compared to the peer group average, Intuitive has much higher price-to-earnings (39), price-to-free cash flow multiple (>60) and price-to-book ratio (>8). In the field of medical devices and equipment, Medtronic, Stryker, and Boston Scientific are generally cheaper across this range of valuation metrics. This means Intuitive must deliver sustained strong performance over the next few years to justify its current valuation. If it fails to meet expectations, share prices could easily take a hit as investors' confidence falls.

Historically, missed earnings have caused massive dips in share prices, where shares fell 7.3% after hours following 2Q19's earnings miss. Intuitive is under pressure to continue to exceed expectations and to do so at a comfortable margin, given its trading premium.

However, this risk seems to be remote given Intuitive's expanding portfolio and market size as well as long-term outlooks. This claim is supported by Intuitive's historical performance as well, where it only had one major earnings miss in the past 3 years, which was attributed to the dip in revenue due to the introduction of its leasing system (which is a one-off event). As such, without any sudden changes in operations, it seems unlikely that Intuitive would have slower-than-expected growth.

**2. Entry of major industry players**

Large competitors like Medtronic have started challenging Intuitive directly by developing similar devices in their initial push into the robotic surgery industry. Medtronic will launch its new robot-assisted surgery platform, the Hugo Robot-Assisted Surgery (RAS) system, early in 2020. As the world's largest medical device company, it is capable of undercutting Intuitive to provide more cost-effective solutions for healthcare providers.

However, given Intuitive's huge head-start as well as large amounts of excess cash (Intuitive managed to maintain zero debt till 2017), it should be more than able to hold its own against Medtronic eyeing the lucrative market. Additionally, the market for such surgical systems should be large enough to support multiple industry players, given that it is only in a nascent stage at the moment. In fact, such competition could even be a blessing in disguise for Intuitive, where major industry players entering the market will inspire confidence in robotic surgical systems, thus expanding the overall market.

Additionally, the cost of switching to different systems is very costly, involving lots of time spent with the machines and money spent for the education of healthcare professionals. Our team believes that the barrier of education and high sunk costs serves as an effective moat against new entrants. Therefore, the impact of this risk is likely to be largely mitigated.

**3. High stakes industry**

Medical operations are highly complex and there always exists the risk of complications and unforeseen accidents. The nature of the industry is such that complications of botched procedures that can be attributed to the failure of da Vinci systems, even if false, will have extremely widespread effects on future revenue flows and adoption of the system. This is because the risks are high for every procedure, and medical care is not something taken lightly. Medical news spreads quickly and since the community is small, there would be far-reaching consequences. If freak accidents occur and there is a loss in confidence in Intuitive's systems, the company will stand to lose a huge proportion of revenues, and possibly even operating licenses.

**Figure 33. Medtronic Hugo Robot-Assisted Surgery (RAS) Systems Key Features**

| Key Features | Description |
|---|---|
| Modularity | The arms and other parts of the system are modular — and they're on wheels — allowing for flexibility when it comes to placement and swapping around parts of the system. |
| Universal Use | The tower and its visualization system, generator, processors and endoscope are meant to support both robot-assisted surgery and laparoscopic applications, and even open surgery. |
| Upgradeable | Medtronic designed the system so that health providers can swap in new systems, generators, etc. as they become available, without having to buy an entirely new system |
| Open Console | The surgical console design boasts an open architecture with foot pedals so that surgeons can still interact with the patient and/or staff during procedures. |
| Utilisation of Existing Expertise | Medtronic is taking advantage of the expertise, know-how, and IP from its existing surgical instrumentation portfolio |

*Source: Medtronic*

We acknowledge that this risk of bad publicity and loss of confidence is extremely concerting for the company. The success of Intuitive was built on strong confidence in the product, supported by extensive clinical data and empirical research. If distrust begins to brew in the company's products, and if medical professionals begin to shy away from them, we foresee that Intuitive will see a large loss of revenues.

However, given Intuitive Surgical's track record and supportive evidence, we believe that the likelihood of this risk occurring is low.

## Disclaimer

## Appendix:

# Pro Forma Financial Statements

| | Historical | | | Projections | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Balance Sheet** | | | | | | | | |
| **Assets** | | | | | | | | |
| Current Assets | | | | | | | | |
| Cash and Equivalents | 1,036.6 | 648.2 | 857.9 | 1,955.6 | 3,236.9 | 4,892.4 | 7,102.7 | 9,861.7 |
| Short term investments | 1,518.0 | 1,312.4 | 2,205.2 | 2,205.2 | 2,205.2 | 2,205.2 | 2,205.2 | 2,205.2 |
| Accounts receivable | 430.2 | 507.9 | 682.3 | 821.8 | 1,005.7 | 1,245.7 | 1,562.8 | 1,971.4 |
| Inventories | 182.3 | 241.2 | 409.0 | 476.3 | 562.8 | 647.4 | 749.9 | 946.0 |
| Prepaid expenses and Other | 83.3 | 99.2 | 178.8 | 208.2 | 246.0 | 283.0 | 327.8 | 413.6 |
| Total Current Assets | 3,250.4 | 2,808.9 | 4,333.2 | 5,667.1 | 7,256.5 | 9,273.7 | 11,948.5 | 15,397.9 |
| Non current Assets | | | | | | | | |
| PPE - Net | 458.4 | 613.1 | 812.0 | 885.8 | 957.2 | 1,028.8 | 1,122.7 | 1,246.3 |
| Long term investments | 2,283.3 | 1,885.9 | 1,771.3 | 1,771.3 | 1,771.3 | 1,771.3 | 1,771.3 | 1,771.3 |
| Deffered tax assets | 150.9 | 72.0 | 428.6 | 428.6 | 428.6 | 428.6 | 428.6 | 428.6 |
| Intangible and other assets, net | 142.8 | 195.8 | 261.0 | 243.9 | 223.0 | 197.0 | 164.5 | 123.5 |
| Goodwill | 201.1 | 201.1 | 240.6 | 240.6 | 240.6 | 240.6 | 240.6 | 240.6 |
| Total Non Current Assets | 3,236.5 | 2,967.9 | 3,513.5 | 3,570.2 | 3,620.6 | 3,666.4 | 3,727.7 | 3,810.3 |
| Total Assets | 6,486.9 | 5,776.8 | 7,846.7 | 9,237.3 | 10,877.2 | 12,940.0 | 15,676.3 | 19,208.2 |
| **Liabilities** | | | | | | | | |
| Current Liablilities | | | | | | | | |
| Accounts payable | 68.5 | 82.5 | 100.7 | 117.4 | 138.7 | 159.6 | 184.8 | 233.2 |
| Accrued compensation and employee benefits | 136.4 | 167.6 | 193.8 | 246.6 | 312.8 | 387.4 | 486.1 | 613.2 |
| Deffered revenue | 240.6 | 243.8 | 294.3 | 358.9 | 439.1 | 543.9 | 682.4 | 860.9 |
| Other accrued liabilities | 151.0 | 168.9 | 231.8 | 269.1 | 329.4 | 408.0 | 511.8 | 645.6 |
| Total Current Liabilities | 596.5 | 662.8 | 820.6 | 992.0 | 1,220.0 | 1,498.9 | 1,865.2 | 2,352.8 |
| Non-current liabilities | | | | | | | | |
| Other long-term liabilities | 112.6 | 333.6 | 338.6 | 391.3 | 462.4 | 531.9 | 616.1 | 777.2 |
| Total liabilities | 709.1 | 996.4 | 1,159.2 | 1,383.3 | 1,682.4 | 2,030.8 | 2,481.4 | 3,130.1 |
| Stockholder Equity | | | | | | | | |
| Preferred Stock | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Common Stock | — | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Additional Paid in Capital | — | 4,679.2 | 5,170.3 | 5,170.3 | 5,170.3 | 5,170.3 | 5,170.3 | 5,170.3 |
| Retained Earnings | 1,574.9 | 115.0 | 1,521.7 | 2,688.2 | 4,029.0 | 5,743.5 | 8,029.1 | 10,912.3 |
| Accumulated Other Comprehensive Loss | (8.9) | (15.5) | (13.3) | (13.3) | (13.3) | (13.3) | (13.3) | (13.3) |
| Noncontrolling interest in joint venture | — | 1.6 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| Total stockholders' equity | 1,566.0 | 4,780.4 | 6,687.5 | 7,854.0 | 9,194.8 | 10,909.3 | 13,194.9 | 16,078.1 |
| Difference | | 0.0 | 0.0 | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Income Statement** | | | | | | | | |
| Revenue | | | | | | | | |
| Product | 2,195.8 | 2,565.3 | 3,089.1 | | | | | |
| Service | 510.7 | 572.9 | 635.1 | | | | | |
| Total Revenue | 2,706.5 | 3,138.2 | 3,724.2 | 4,485.7 | 5,489.3 | 6,799.2 | 8,530.5 | 10,760.7 |
| Cost of Revenue | | | | | | | | |
| Product | 662.6 | 756.3 | 906.2 | | | | | |
| Service | 151.0 | 179.9 | 213.9 | | | | | |
| Total cost of revenue | 813.6 | 936.2 | 1,120.1 | 1,304.3 | 1,541.2 | 1,773.0 | 2,053.8 | 2,590.8 |
| Gross Profit | 1,892.9 | 2,202.0 | 2,604.1 | 3,181.4 | 3,948.1 | 5,026.2 | 6,476.7 | 8,169.9 |
| Operating Expenses | | | | | | | | |
| SG&A | 703.6 | 810.5 | 986.6 | 1,233.2 | 1,564.0 | 1,937.2 | 2,430.5 | 3,065.9 |
| R&D | 239.6 | 328.6 | 418.1 | 548.4 | 780.9 | 1,035.3 | 1,298.9 | 1,638.5 |
| Total operating expenses | 943.2 | 1,139.1 | 1,404.7 | 1,781.6 | 2,344.9 | 2,972.5 | 3,729.4 | 4,704.4 |
| Income from operations | 949.7 | 1,062.9 | 1,199.4 | 1,399.8 | 1,603.2 | 2,053.7 | 2,747.3 | 3,465.5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Interest and other income, net | 35.6 | 41.9 | 80.1 | 78.2 | 95.7 | 118.5 | 148.7 | 187.6 |
| Income before taxes | 985.3 | 1,104.8 | 1,279.5 | 1,478.0 | 1,698.9 | 2,172.2 | 2,896.0 | 3,653.1 |
| Income tax expense | 247.0 | 433.9 | 154.5 | 311.5 | 358.0 | 457.8 | 610.3 | 769.9 |
| Net income | 738.3 | 670.9 | 1,125.0 | 1,166.5 | 1,340.8 | 1,714.4 | 2,285.7 | 2,883.2 |
| Less: net loss attributable to NCI in JV | 0.0 | 0.0 | (2.9) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | |
| EPS attributable to Intuitive Surgical, Inc: | | | | | | | | |
| Basic | 6.4 | 6.0 | 9.9 | 10.3 | 11.8 | 15.1 | 20.1 | 25.4 |
| Diluted | 6.3 | 5.8 | 9.5 | 9.8 | 11.3 | 14.4 | 19.2 | 24.3 |
| | | | | | | | | |
| Basic shares outstanding | 114.9 | 111.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 |
| Diluted shares outstanding | 117.9 | 116.3 | 118.8 | 118.8 | 118.8 | 118.8 | 118.8 | 118.8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Cash Flow Statement** | | | | | | | | |
| **Operating Activities** | | | | | | | | |
| Net income | 738.3 | 670.9 | 1,125.0 | 1,166.5 | 1,340.8 | 1,714.4 | 2,285.7 | 2,883.2 |
| | | | | | | | | |
| Depreciation and loss on disposal of PPE, net | 73.9 | 86.2 | 108.6 | 151.9 | 204.9 | 270.5 | 335.4 | 417.9 |
| Amortization of intangible assets | 18.2 | 12.9 | 14.2 | 17.1 | 20.9 | 25.9 | 32.5 | 41.0 |
| Loss on investment, accretion of discounts, and amortization of premiums on investments, ne | 35.9 | 21.2 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Deferred income taxes | 20.9 | 60.2 | 31.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Income tax benefits from employee stock plans | 29.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Share-based compensation expense | 177.6 | 209.1 | 261.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Amortization of contract acquisition asset | 10.1 | 10.9 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Changes in operating assets and liabilities, net of effects of acquisitions | | | | | | | | |
| Accounts receivable | (34.2) | (81.4) | (161.3) | (139.5) | (183.9) | (240.0) | (317.2) | (408.6) |
| Inventory | (46.7) | (115.5) | (279.0) | (67.3) | (86.5) | (84.6) | (102.6) | (196.1) |
| Prepaids and other assets | (39.2) | (38.9) | (77.7) | (29.4) | (37.8) | (37.0) | (44.8) | (85.7) |
| Accounts payable | 15.9 | 14.0 | 16.7 | 16.7 | 21.3 | 20.9 | 25.3 | 48.3 |
| Accrued compensation and employee benefits | 18.7 | 31.2 | 26.2 | 52.8 | 66.2 | 74.6 | 98.7 | 127.1 |
| Deferred revenue | 14.1 | 43.7 | 54.3 | 64.6 | 80.3 | 104.8 | 138.5 | 178.4 |
| Other liabilities | 53.7 | 219.4 | 37.1 | 90.0 | 131.3 | 148.1 | 188.1 | 294.9 |
| Total Adjustments | 348.7 | 473.0 | 44.6 | 156.9 | 216.7 | 283.2 | 353.9 | 417.2 |
| | | | | | | | | |
| Net cash provided by operating activities | 1,087.0 | 1,143.9 | 1,169.6 | 1,323.4 | 1,557.5 | 1,997.7 | 2,639.5 | 3,300.4 |
| | | | | | | | | |
| Investing activities | | | | | | | | |
| Purchase of investments | (2,585.5) | (1,995.0) | (2,581.9) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Proceeds from sales of investments | 389.9 | 1,861.3 | 274.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Proceeds from maturities of investments | 970.1 | 703.1 | 1,533.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Purchase of PPE and Intellectual Property | (53.9) | (190.7) | (187.4) | (225.7) | (276.2) | (342.1) | (429.3) | (541.5) |
| Acquisitions of businesses, net of cash | 0.0 | 0.0 | (87.9) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | |
| Net cash provided by investing activities | (1,279.4) | 378.7 | (1,049.6) | (225.7) | (276.2) | (342.1) | (429.3) | (541.5) |
| | | | | | | | | |
| **Financing activities** | | | | | | | | |
| Proceeds from issuance of common stock relating to employee stock plans | 580.9 | 415.5 | 236.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Taxes paid related to net share settlement of equity awards | (24.0) | (56.6) | (120.0) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Repurchase common stock | (42.5) | (2,274.0) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other financing activities | - | 2.0 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Net cash provided by financing activities | 514.4 | (1,913.1) | 126.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | |
| Effect of exchange rate changes on cash, cash equivalents and restricted cash | 0.0 | 2.1 | (0.1) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | | | |
| Net increase (decrease) in cash, cash equivalents and restricted cash | 322.0 | (388.4) | 246.2 | 1,097.7 | 1,281.3 | 1,655.5 | 2,210.3 | 2,759.0 |
| | | | | | | | | |
| Cash, cash equivalents, and restricted cash, beginning of year | 729.6 | 1,051.6 | 663.2 | 909.4 | 2,007.1 | 3,288.4 | 4,943.9 | 7,154.2 |
| Cash, cash equivalents, and restricted cash, end of year | 1,051.6 | 663.2 | 909.4 | 2,007.1 | 3,288.4 | 4,943.9 | 7,154.2 | 9,913.2 |
| **Cash and cash equivalents, end of year** | 1,036.6 | 648.2 | 857.9 | 1,955.6 | 3,236.9 | 4,892.4 | 7,102.7 | 9,861.7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reconciliation between cash balance on CFS and BS | | | | | | | | |
| Cash on BS | 1,036.6 | 648.2 | 857.9 | 1,955.6 | 3,236.9 | 4,892.4 | 7,102.7 | 9,861.7 |
| Cash on CFS | 1,051.6 | 663.2 | 909.4 | 2,007.1 | 3,288.4 | 4,943.9 | 7,154.2 | 9,913.2 |
| Difference | (15.0) | (15.0) | (51.5) | (51.5) | (51.5) | (51.5) | (51.5) | (51.5) |

# Financial Projections

| | Historical | | | Projections | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Projected Income Statement** | | | | | | | | |
| Revenue | | | | | | | | |
| Product | 2195.8 | 2565.3 | 3089.1 | | | | | |
| Service | 510.7 | 572.9 | 635.1 | | | | | |
| Total Revenue | 2706.5 | 3138.2 | 3724.2 | 4486 | 5489 | 6799 | 8531 | 10761 |
| Cost of Revenue | | | | | | | | |
| Product | 662.6 | 756.3 | 906.2 | | | | | |
| Service | 151 | 179.9 | 213.9 | | | | | |
| Total cost of revenue | 813.6 | 936.2 | 1120.1 | 1304 | 1541 | 1773 | 2054 | 2591 |
| Gross Profit | 1892.9 | 2202 | 2604.1 | 3181 | 3948 | 5026 | 6477 | 8170 |
| | | | | | | | | |
| Operating Expenses | | | | | | | | |
| SG&A | 703.6 | 810.5 | 986.6 | 1233 | 1564 | 1937 | 2430 | 3066 |
| R&D | 239.6 | 328.6 | 418.1 | 548 | 781 | 1035 | 1299 | 1638 |
| Total operating expenses | 943.2 | 1139.1 | 1404.7 | 1782 | 2345 | 2972 | 3729 | 4704 |
| Income from operations | 949.7 | 1062.9 | 1199.4 | 1400 | 1603 | 2054 | 2747 | 3466 |
| | | | | | | | | |
| Interest and other income, net | 35.6 | 41.9 | 80.1 | 78 | 96 | 119 | 149 | 188 |
| Income before taxes | 985.3 | 1104.8 | 1279.5 | 1478 | 1699 | 2172 | 2896 | 3653 |
| Income tax expense | 247 | 433.9 | 154.5 | 311 | 358 | 458 | 610 | 770 |
| Net income | 738.3 | 670.9 | 1125 | 1166 | 1341 | 1714 | 2286 | 2883 |
| Less: net loss attributable to NCI in JV | 0 | 0 | -2.9 | 0 | 0 | 0 | 0 | 0 |
| Net income per share attributable to Intuitive Surgical, Inc: | 0 | 0 | 0 | 1166 | 1341 | 1714 | 2286 | 2883 |
| Basic | 6.43 | 6.01 | 9.92 | 10.26 | 11.79 | 15.08 | 20.10 | 25.36 |
| Diluted | 6.26 | 5.77 | 9.49 | 9.82 | 11.29 | 14.43 | 19.24 | 24.27 |
| | | | | | | | | |
| Basic shares outstanding | 114.9 | 111.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 |
| Diluted shares outstanding | 117.9 | 116.3 | 118.8 | 118.8 | 118.8 | 118.8 | 118.8 | 118.8 |

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| **Operating assumptions for Income Statement** | | | | | | | | |
| Revenue last year | | 2706.5 | 3138.2 | 3724.2 | 4485.7 | 5489.3 | 6799.2 | 8530.5 |
| % YoY Growth | | 14% | 16% | 20% | 22% | 24% | 25% | 26% |
| Revenue this year | 2706.5 | 3138.2 | 3724.2 | 4485.7 | 5489.3 | 6799.2 | 8530.5 | 10760.7 |
| | | | | | | | | |
| Cost of sales as % of revenue | 30% | 30% | 30% | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |
| % YoY Growth | | 0% | 0% | -1% | -2% | -2% | 0% | 0% |
| Cost of sales | 813.6 | 936.2 | 1120.1 | 1304.3 | 1541.2 | 1773.0 | 2053.8 | 2590.8 |
| | | | | | | | | |
| SGA as % of revenue | 26% | 26% | 26% | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| % YoY Growth | | 0% | 1% | 1% | 1% | 0% | 0% | 0% |
| SGA expenses | 703.6 | 810.5 | 986.6 | 1233.2 | 1564.0 | 1937.2 | 2430.5 | 3065.9 |
| | | | | | | | | |
| R&D as % of revenue | 9% | 10% | 11% | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| %YoY Growth | | 2% | 1% | 1% | 2% | 1% | 0% | 0% |
| R&D expenses | 239.6 | 328.6 | 418.1 | 548.4 | 780.9 | 1035.3 | 1298.9 | 1638.5 |
| | | | | | | | | |
| Incomes Taxes as % of profit before tax | 25% | 39% | 12% | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| % YoY Growth | | 14% | -27% | 9% | 0% | 0% | 0% | 0% |
| Income taxes | 247 | 433.9 | 154.5 | 311.5 | 358.0 | 457.8 | 610.3 | 769.9 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Operating Assumptions for Current Assets & Current Liabilities** | | | | | | | | |
| Working capital assumptions (assets) | | | | | | | | |
| Accounts receivable | 430.2 | 507.9 | 682.3 | 821.8 | 1005.7 | 1245.7 | 1562.8 | 1971.4 |
| Inventories | 182.3 | 241.2 | 409 | 476.3 | 562.8 | 647.4 | 749.9 | 946.0 |
| Prepaid expenses and Other | 83.3 | 99.2 | 178.8 | 208.2 | 246.0 | 283.0 | 327.8 | 413.6 |
| Accounts receivable as % of of revenue | 16% | 16% | 18% | 18% | 18% | 18% | 18% | 18% |
| Inventory as % of COS | 22% | 26% | 37% | 37% | 37% | 37% | 37% | 37% |
| Prepaid expenses as % of COS | 10% | 11% | 16% | 16% | 16% | 16% | 16% | 16% |
| change in AR | | | | 139.5 | 183.9 | 240.0 | 317.2 | 408.6 |
| change in inventories | | | | 67.3 | 86.5 | 84.6 | 102.6 | 196.1 |
| change in prepaid expenses and other | | 15.9 | 79.6 | 29.4 | 37.8 | 37.0 | 44.8 | 85.7 |
| Working capital assumptions (liabilities) | | | | | | | | |
| Accounts payable | 68.5 | 82.5 | 100.7 | 117.4 | 138.7 | 159.6 | 184.8 | 233.2 |
| Accrued compensation and employee benefits | 136.4 | 167.6 | 193.8 | 246.6 | 312.8 | 387.4 | 486.1 | 613.2 |
| Deffered revenue | 240.6 | 243.8 | 294.3 | 358.9 | 439.1 | 543.9 | 682.4 | 860.9 |
| Other accrued liabilities | 151 | 168.9 | 231.8 | 269.1 | 329.4 | 408.0 | 511.8 | 645.6 |
| Accounts payable as % of COS | 8% | 9% | 9% | 9% | 9% | 9% | 9% | 9% |
| Accrued compensation and employee benefits as % of SGA | 19% | 21% | 20% | 20% | 20% | 20% | 20% | 20% |
| Deferred revenue as % of revenue | 9% | 8% | 8% | 8% | 8% | 8% | 8% | 8% |
| Other accrued liabilities as % of revenue | 6% | 5% | 6% | 6% | 6% | 6% | 6% | 6% |
| Change in AP | | | | 16.7 | 21.3 | 20.9 | 25.3 | 48.3 |
| Change in accried comp and employee benefits | | | | 52.8 | 66.2 | 74.6 | 98.7 | 127.1 |
| Change in deferred revenue | | | | 64.6 | 80.3 | 104.8 | 138.5 | 178.4 |
| Change in other accrued liabilites | | | | 37.3 | 60.2 | 78.6 | 103.9 | 133.8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Operating Assumptions for non-current liabilities** | | | | | | | | |
| Non current liabilities | | | | | | | | |
| Other long-term liabilities | 112.6 | 333.6 | 338.6 | 391.3 | 462.4 | 531.9 | 616.1 | 777.2 |
| change | | | | 52.7 | 71.1 | 69.5 | 84.3 | 161.1 |
| Other long-term liabilities as % of COS | 14% | 36% | 30% | 30% | 30% | 30% | 30% | 30% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Depreciation, CAPEX, PPE** | | | | | | | | |
| PPE: | | | | | | | | |
| CAPEX into PPE | 53.9 | 190.7 | 187.4 | 225.7 | 276.2 | 342.1 | 429.3 | 541.5 |
| CAPEX into PPE as a % of Revenue | 2% | 6% | 5% | 5% | 5% | 5% | 5% | 5% |
| Depreciation | -73.9 | -86.2 | -108.6 | -151.9 | -204.9 | -270.5 | -335.4 | -417.9 |
| Depreciation as a % of Revenue | -3% | -3% | -3% | -3.4% | -3.7% | -4.0% | -3.9% | -3.9% |
| Ending PPE | | | 812 | 885.8 | 957.2 | 1028.8 | 1122.7 | 1246.3 |
| Intangible Assets: | | | | | | | | |
| CAPEX into intangibles | | | | | | | | |
| CAPEX into intangibles as a % of revenue | | | | | | | | |
| Amortisation | 18.2 | 12.9 | 14.2 | 17.1 | 20.9 | 25.9 | 32.5 | 41.0 |
| Amortisation as a % of revenue | 1% | 0% | 0% | 0.38% | 0.38% | 0.38% | 0.38% | 0.38% |
| Ending intangibles | | | 261 | 243.90 | 222.97 | 197.04 | 164.52 | 123.49 |
| Total D&A | -55.7 | -73.3 | -94.4 | -134.79 | -183.94 | -244.56 | -302.84 | -376.82 |
| Gross PPE | | 960.1 | 1248.2 | | | | | |
| Accumulated Depreciation | | 347 | 436.2 | | | | | |
| Carrying Value | | 613.1 | 812 | | | | | |
| **PPE BREAKDOWN** | | | | | | | | |
| | **Cost** | | | **% CAPEX** | **Life (years)** | | | |
| Land | | 174.8 | 184.6 | | | | | |
| Building and building/leasehold improvements | | 230.5 | 266.2 | 29% | 15 | | | |
| Machinery and equipment | | 224.8 | 280.1 | 31% | 5 | | | |

| | | | | |
|---|---|---|---|---|
| Operating lease assets | 66.1 | 150.2 | 17% | 5 |
| Computer and office equipment | 44.8 | 52.6 | 6% | 3 |
| Capitalised software | 135.6 | 157.8 | 17% | 3 |
| Construction in process | 83.5 | 156.7 | | |

Building and building/leasehold improvements

| FY | | CAPEX | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| | 2019 | 66.3 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| | 2020 | 81.1 | | 5.4 | 5.4 | 5.4 | 5.4 |
| | 2021 | 100.4 | | | 6.7 | 6.7 | 6.7 |
| | 2022 | 126.0 | | | | 8.4 | 8.4 |
| | 2023 | 158.9 | | | | | 10.6 |
| | | Depreciation | 4.4 | 9.8 | 16.5 | 24.9 | 35.5 |

Machinery and equipment

| FY | | CAPEX | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| | 2019 | 69.7 | 13.9 | 13.9 | 13.9 | 13.9 | 13.9 |
| | 2020 | 85.3 | | 17.1 | 17.1 | 17.1 | 17.1 |
| | 2021 | 105.7 | | | 21.1 | 21.1 | 21.1 |
| | 2022 | 132.6 | | | | 26.5 | 26.5 |
| | 2023 | 167.2 | | | | | 33.4 |
| | | Depreciation | 13.9 | 31.0 | 52.1 | 78.7 | 112.1 |

Operating lease assets

| FY | | CAPEX | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| | 2019 | 37.383 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| | 2020 | 45.747 | | 9.1 | 9.1 | 9.1 | 9.1 |
| | 2021 | 56.664 | | | 11.3 | 11.3 | 11.3 |
| | 2022 | 71.092 | | | | 14.2 | 14.2 |
| | 2023 | 89.678 | | | | | 17.9 |
| | | Depreciation | 7.5 | 16.6 | 28.0 | 42.2 | 60.1 |

Computer and office equipment

| FY | | CAPEX | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| | 2019 | 13.092 | 4.4 | 4.4 | 4.4 | | |
| | 2020 | 16.021 | | 5.3 | 5.3 | 5.3 | |
| | 2021 | 19.844 | | | 6.6 | 6.6 | 6.6 |
| | 2022 | 24.896 | | | | 8.3 | 8.3 |
| | 2023 | 31.405 | | | | | 10.5 |
| | | Depreciation | 4.4 | 9.7 | 16.3 | 20.3 | 25.4 |

Capitalised software

| FY | | CAPEX | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|
| | 2019 | 39.275 | 13.1 | 13.1 | 13.1 | | |
| | 2020 | 48.062 | | 16.0 | 16.0 | 16.0 | |
| | 2021 | 59.531 | | | 19.8 | 19.8 | 19.8 |
| | 2022 | 74.689 | | | | 24.9 | 24.9 |
| | 2023 | 94.216 | | | | | 31.4 |
| | | Depreciation | 13.1 | 29.1 | 49.0 | 60.8 | 76.1 |

| | | | | | |
|---|---|---|---|---|---|
| Depreciation New PPE | 43.3 | 96.3 | 161.9 | 226.8 | 309.3 |
| Depreciation Old PPE | 108.6 | 108.6 | 108.6 | 108.6 | 108.6 |
| Total Depreciation | 151.9 | 204.9 | 270.5 | 335.4 | 417.9 |

| **Retained Earnings** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Net Income | 738.3 | 670.9 | 1125 | 1166.5 | 1340.8 | 1714.4 | 2285.7 | 2883.2 |
| Total Retained Earnings | 1574.9 | 115 | 1521.7 | 2688.2 | 4029.0 | 5743.5 | 8029.1 | 10912.3 |

| **NOWC** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Operating assets | 2213.8 | 2160.7 | 3475.3 | 3711.5 | 4019.7 | 4381.3 | 4845.8 | 5536.2 |
| Operating liabilities | 596.5 | 662.8 | 820.6 | 992.0 | 1220.0 | 1498.9 | 1865.2 | 2352.8 |
| NOWC | 1617.3 | 1497.9 | 2654.7 | 2719.4 | 2799.6 | 2882.4 | 2980.6 | 3183.4 |
| Changes | | | | 64.7 | 80.2 | 82.7 | 98.3 | 202.7 |

## Revenue Model

| | Historical | | | Projections | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Revenue Model** | | | | | | | | |
| | | | | | | | | |
| **US** | | | | | | | | |
| Instruments, accessories | 1077.3 | 1263.1 | 1485.2 | 1767.4 | 2138.5 | 2609.0 | 3235.2 | 4044.0 |
| *% Revenue US* | 55% | 55% | 56% | 58% | 59% | 61% | 64% | 66% |
| %YoY Growth | - | 17% | 18% | 19% | 21% | 22% | 24% | 25% |
| | | | | | | | | |
| Systems | 501.3 | 603.5 | 692.2 | 782.2 | 876.0 | 981.2 | 1089.1 | 1198.0 |
| *% Revenue US* | 26% | 26% | 26% | 26% | 24% | 23% | 21% | 20% |
| %YoY Growth | - | 20% | 15% | 13% | 12% | 12% | 11% | 10% |
| | | | | | | | | |
| Services | 377.8 | 419.2 | 456.1 | 515.4 | 587.5 | 663.9 | 750.2 | 855.3 |
| *% Revenue US* | 19% | 18% | 17% | 17% | 16% | 16% | 15% | 14% |
| %YoY Growth | - | 11% | 9% | 13% | 14% | 13% | 13% | 14% |
| | | | | | | | | |
| **Total US** | 1956.4 | 2285.8 | 2633.5 | 3065.0 | 3602.1 | 4254.1 | 5074.5 | 6097.3 |
| % Revenue Total | 40% | 40% | 40% | 68% | 66% | 63% | 59% | 57% |
| %YoY Growth | - | 17% | 15% | 16% | 18% | 18% | 19% | 20% |
| | | | | | | | | |
| **Non US** | | | | | | | | |
| Instruments, accessories | 318.5 | 373.8 | 476.8 | 619.8 | 812.0 | 1071.8 | 1436.2 | 1910.2 |
| % Revenue non-US | 42% | 44% | 44% | 44% | 43% | 42% | 42% | 41% |
| %YoY Growth | - | 17% | 28% | 30% | 31% | 32% | 34% | 33% |
| | | | | | | | | |
| Systems | 298.7 | 324.9 | 434.9 | 591.5 | 828.0 | 1184.1 | 1681.4 | 2354.0 |
| % Revenue non-US | 40% | 38% | 40% | 42% | 44% | 47% | 49% | 50% |
| %YoY Growth | - | 9% | 34% | 36% | 40% | 43% | 42% | 40% |
| | | | | | | | | |
| Services | 132.9 | 153.7 | 179 | 209.4 | 247.1 | 289.1 | 338.3 | 399.2 |
| % Revenue non-US | 18% | 18% | 16% | 15% | 13% | 11% | 10% | 9% |
| %YoY Growth | - | 16% | 16% | 17% | 18% | 17% | 17% | 18% |
| | | | | | | | | |
| **Total Non-US** | 750.1 | 852.4 | 1090.7 | 1420.7 | 1887.2 | 2545.1 | 3456.0 | 4663.4 |
| % Revenue Total | 28% | 27% | 29% | 32% | 34% | 37% | 41% | 43% |
| %YoY Growth | | 14% | 28% | 30% | 33% | 35% | 36% | 35% |
| | | | | | | | | |
| **Overall** | | | | | | | | |
| Instruments, accessories | 1395.8 | 1636.9 | 1962 | 2387.2 | 2950.5 | 3680.8 | 4671.4 | 5954.2 |
| *% Revenue* | 52% | 52% | 53% | 53% | 54% | 54% | 55% | 55% |
| %YoY Growth | - | 17% | 20% | 22% | 24% | 25% | 27% | 27% |
| | | | | | | | | |
| Systems | 800 | 928.4 | 1127.1 | 1373.7 | 1704.1 | 2165.3 | 2770.5 | 3552.0 |
| *% Revenue* | 30% | 30% | 30% | 31% | 31% | 32% | 32% | 33% |
| %YoY Growth | - | 16% | 21% | 22% | 24% | 27% | 28% | 28% |
| | | | | | | | | |
| Services | 510.7 | 572.9 | 635.1 | 724.8 | 834.7 | 953.1 | 1088.5 | 1254.5 |
| *% Revenue* | 19% | 18% | 17% | 16% | 15% | 14% | 13% | 12% |
| %YoY Growth | - | 12% | 11% | 14% | 15% | 14% | 14% | 15% |
| | | | | | | | | |
| **TOTAL REVENUE** | 2706.5 | 3138.2 | 3724.2 | 4485.7 | 5489.3 | 6799.2 | 8530.5 | 10760.7 |
| %YoY Growth | - | 16% | 19% | 20% | 22% | 24% | 25% | 26% |

# DCF Model

| Date of review | 8/11/2019 | | | | |
|---|---|---|---|---|---|
| Revenue | 4485.7 | 5489.3 | 6799.2 | 8530.5 | 10760.7 |
| Gross profit | 3181.4 | 3948.1 | 5026.2 | 6476.7 | 8169.9 |
| EBITDA | 1568.8 | 1829.0 | 2350.2 | 3115.2 | 3924.4 |
| EBIT | 1399.8 | 1603.2 | 2053.7 | 2747.3 | 3465.5 |
| Tax rate | 21% | 21% | 21% | 21% | 21% |
| EBIAT | 1104.8 | 1265.3 | 1620.9 | 2168.3 | 2735.2 |
| CAPEX | -225.7 | -276.2 | -342.1 | -429.3 | -541.5 |
| D&A | 169.0 | 225.8 | 296.4 | 367.9 | 458.9 |
| Changed in NOWC | -64.7 | -80.2 | -82.7 | -98.3 | -202.7 |
| FCFF | 983.3 | 1134.7 | 1492.5 | 2008.7 | 2449.9 |

| | | | | | |
|---|---|---|---|---|---|
| Discount period | 1 | 1 | 1 | 1 | 1 |
| Discount factor | 10.63% | 10.63% | 10.63% | 10.63% | 10.63% |
| FCFF to be discounted | 983.3 | 1134.7 | 1492.5 | 2008.7 | 2449.9 |
| PV of FCFF | 888.8 | 927.1 | 1102.2 | 1340.8 | 1478.1 |

| CAPM | |
|---|---|
| Risk free rate | 1.91% |
| ERP | 8.72% |
| Beta | 1.30 |
| EMR | 8.62% |
| COE | 10.63% |
| Discount factor | 10.63% |

Since Cost of Debt = 0, WACC (i.e. discount factor) = COE

| Target price (exit multiple) | |
|---|---|
| PV of projected FCFF | 5737.0 |
| Ending EBITDA | 3924.4 |
| Exit multiple (EV/EBITDA) | 25 |
| PV of TV | 59196.0 |
| Cash (MRQ) | 984.6 |
| | |
| Equity Value | 65917.6 |
| NOSH (MRQ) | 119.3 |
| Implied fair value/share | $ 552.54 |
| Last Close | $ 551.33 |
| Implied Upside | 0% |

**Sensitivity Analysis**

COST OF EQUITY

| EXIT MULTIPLE | $ 552.54 | 9.83% | 10.23% | 10.63% | 11.03% | 11.43% |
|---|---|---|---|---|---|---|
| | 23 | 530.94 | 521.83 | 512.91 | 504.18 | 495.63 |
| | 24 | 551.52 | 542.04 | 532.76 | 523.67 | 514.78 |
| | 25 | 572.11 | 562.25 | 552.61 | 543.17 | 533.93 |
| | 26 | 592.69 | 582.47 | 572.46 | 562.66 | 553.08 |
| | 27 | 613.28 | 602.68 | 592.31 | 582.16 | 572.22 |

# Financial Analysis

| | Historical | | Projected | | | | |
|---|---|---|---|---|---|---|---|
| | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E |
| **Financial Ratios** | | | | | | | |
| Profitability | | | | | | | |
| Gross Margin | 70% | 70% | 71% | 72% | 74% | 76% | 76% |
| EBITDA Margin | 38% | 36% | 35% | 33% | 35% | 37% | 36% |
| EBIT Margin | 34% | 32% | 31% | 29% | 30% | 32% | 32% |
| Net Profit Margin | 21% | 30% | 26% | 24% | 25% | 27% | 27% |
| Return on Equity | 47% | 14% | 17% | 15% | 15% | 16% | 17% |
| Return on Assets | 11% | 17% | 14% | 13% | 14% | 16% | 17% |
| Return on Invested Capital | 12% | 17% | 15% | 15% | 16% | 17% | 18% |
| | | | | | | | |
| Liquidity | | | | | | | |
| Current Ratio | 34.0 | 43.0 | 48.3 | 52.3 | 58.1 | 64.6 | 66.0 |
| Quick Ratio | 3.9 | 4.8 | 5.2 | 5.5 | 5.8 | 6.0 | 6.1 |
| Cash Ratio | 1.0 | 1.0 | 2.0 | 2.7 | 3.3 | 3.8 | 4.2 |
| | | | | | | | |
| Shareholder Returns | | | | | | | |
| Earnings per Share (cents) | 5.8 | 9.5 | 9.8 | 11.3 | 14.4 | 19.2 | 24.3 |

# Relative Valuation

| Football Field Analysis | | | | | | |
|---|---|---|---|---|---|---|
| **Company name** | **1Y FW P/E** | **1Y FW EV/EBITDA** | | **Expected Metrics** | **Min** | **Max** |
| Intuitive Surgical INC (NASDAQ:ISRG) | 40.95 | 31.23 | **1Y FW P/E** | | 14.93 | 40.95 |
| Medtronic PLC (NYSE:MDT) | 18.84 | 15.76 | **Expected EPS** | 9.82 | 146.6 | 402.1 |
| Stryker Corporation (NYSE:SYK) | 22.74 | 18.05 | | | | |
| Johnson & Johnson (NYSE:JNJ) | 14.93 | 11.90 | **1Y FW EV/EBITDA** | | 11.9 | 31.23 |
| CONMED Corporation (NASDAQ:CNMD) | 38.15 | 19.05 | **Expected EV** | 1568.78 | 157.14 | 412.4 |
| Zimmer Biomet Holdings INC (NYSE:ZBH) | 17.26 | 13.98 | | | | |
| Boston Scientific Corporation (NYSE:BSX) | 23.34 | 19.50 | **DCF value** | | 20 | 28 |
| Olympus Corporation (TSE:7733) | 32.18 | 14.18 | **DCF value at 20-28X EV/EBITDA** | | 577.76 | 736.5 |
| HOYA Corporation (TSE:77410 | 26.05 | 15.32 | | | | |
| | | | **15 analyst estimates** | | 540 | 650 |