

ClearCam Final Presentation

Laparoscope Cleaning Devices
Robotic-assisted Surgical Devices



CLEARCAM COMPANY PROFILE AND TARGET MARKET

Company Basic Information, Market Definition, Market
History

About Company

ClearCam is committed to solving the problem of constantly removing the laparoscopic camera from the patient's body and cleaning it during laparoscopic surgery.

In order to solve the problem, ClearCam have two effective solution, one is develop cleaning devices set on the laparoscope. During the surgery, surgeons can manually manipulate the cleaning device to keep laparoscope clean. The other solution is develop robot-assisted surgical devices with advanced imaging system, which provide clearer video and image and reduce the constant removal of laparoscope during procedures.

Market Definition

- Rigid Endoscope Market
Focus on Laparoscope cleaning devices
- Robotic-assisted Surgical Devices Market
Focus on Robotic-assisted Surgical Devices

Market History

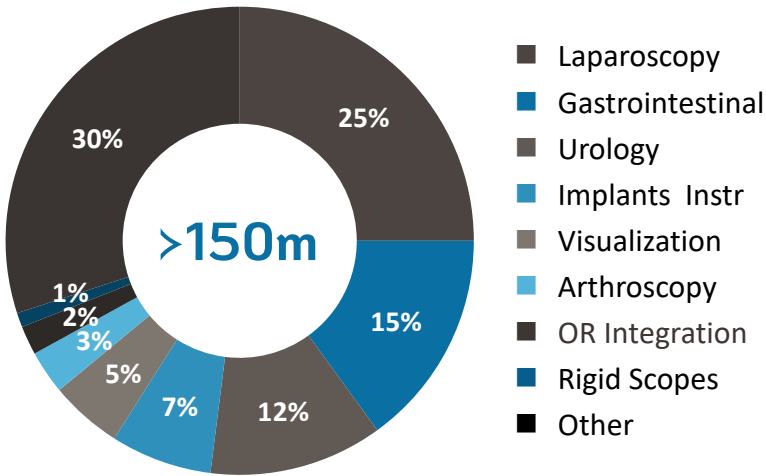
Endoscopy is a minimally invasive procedure used for diagnosis, prevention, and treatment of complications in the internal organs. During the procedure, an endoscope is inserted into the patient's body either through natural cavities or through a small incision. The camera and the light source at the tip of the endoscope allow the physician to view the organ of interest. Endoscope is an important part for endoscopy, its development depend on endoscopy technology advancement.

In the 19th century, basic technology promoted the beginning of endoscopy based on light and mirror. In the 20th century, endoscopy technology and development became mature, meanwhile, laparoscopy was born. After the invention of the CCD (charge-coupled device) in 1969, flexible instruments were gradually applied to endoscope market, which impede the market development of rigid endoscopes. In the 21st century, more and more innovative and advanced technology applied to endoscopy surgery, like capsule endoscopes, robotics and so on. These more sophisticated instruments also limited market potential of rigid endoscopes.



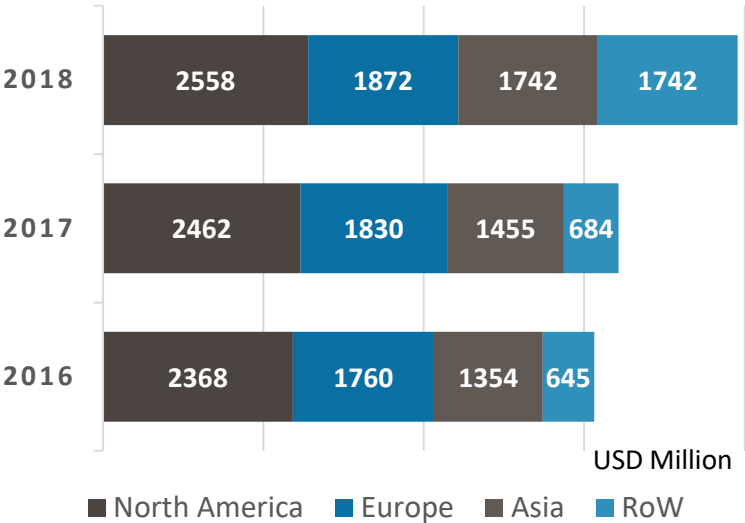
CLEARCAM MARKET OVERVIEW RIGID ENDOSCOPE

Total Addressable Market, Market Segmentation, Market
Forecast, Leading Players, Market Share



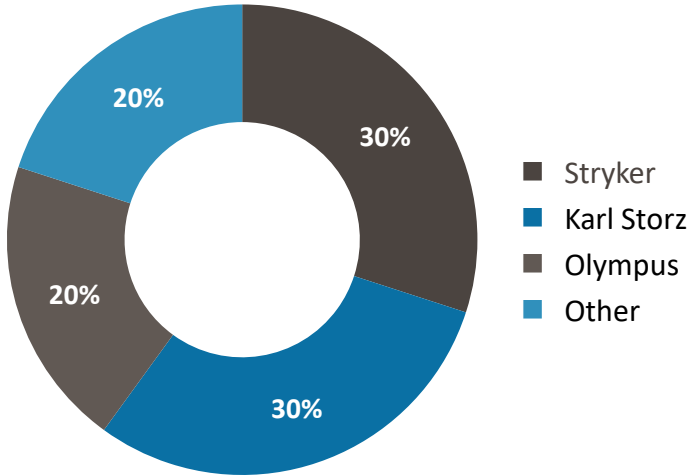
TAM and Segmentation

It is estimated that there are 150 million procedures performed in the endoscopic market in 2020. In 2017, the global rigid endoscopes market size was \$ 6.43 billion and was \$ 2.46 billion in North America.



Market Forecast

BCC Research estimates endoscopes market reach to \$ ~8,000 million in 2018. According to Grand View Research, it is anticipated to grow with the CAGR of 7.5% over the forecast period to reach \$ 17.3 billion by 2025.



Leading Players & Market Share

Olympus has ~20% global market share in surgical endoscopes, the third largest after Stryker of the United States and Karl Storz of Germany, each with ~30% market share. Other companies occupy ~30% market share.

CLEARCAM MARKET OVERVIEW ROBOT-ASSISTED SURGICAL (RAS) DEVICES

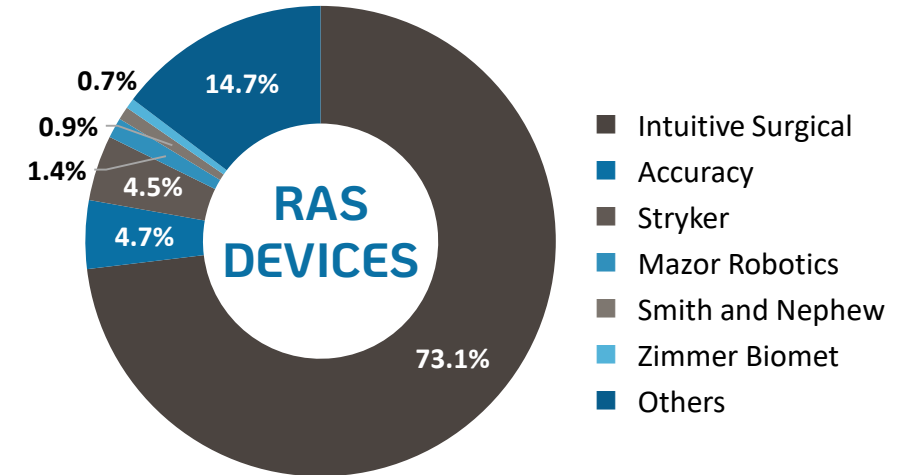
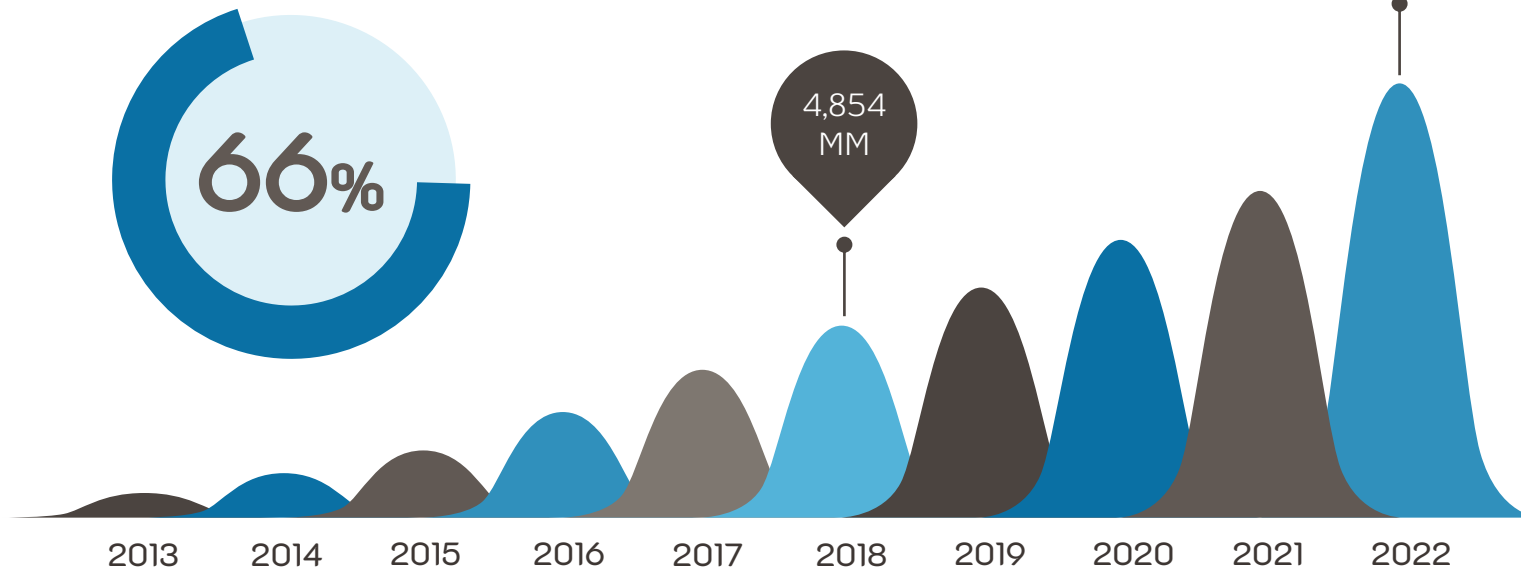
Total Addressable Market, Market Forecast, Leading
Players, Market Share

Total Addressable Market and Market Forecast

Robotic surgery market in the US has grown from \$ 1,881.5 million in 2012 to 2,712.8 million in 2017 at a CAGR of 7.6% during the period 2012-2017. Overall the market for robotic surgery is expected to grow from \$ 4,854.4 million in 2018 to \$ 11,244.8 million by 2022 at a CAGR of 22.5% during the period 2017-2022.

US Market Share of
Overall RAS Devices

TAM: 4,854 MM USD
CAGR: 22.5%



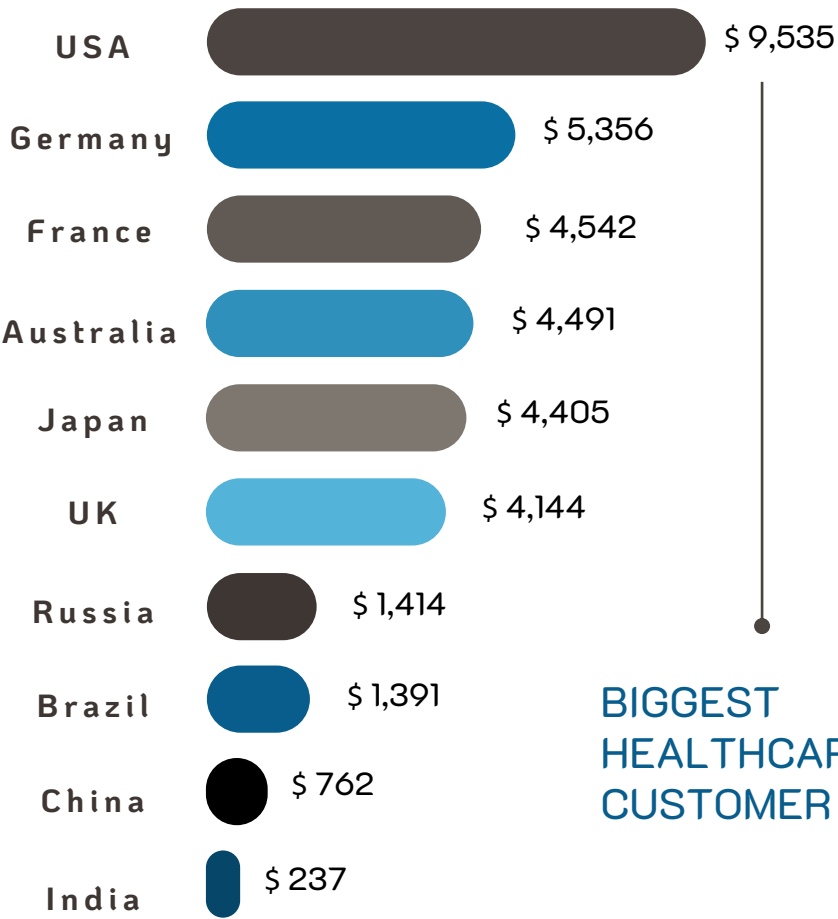
Leading Players & Market Share

Intuitive Surgical generated about 72.0% of its entire annual revenues from the US itself in 2016. Several other major players in this sector such as Accuray, Stryker, Zimmer Biomet, OMNIlife Science, Think Surgical, Restoration Robotics, Medrobotics, TransEnterix and Auris Surgical are based in the US.

CLEARCAM CUSTOMER INFOGRAPHIC

Customer Indicators, Customer Distribution

Health expenditure per capita (PPP) 2015



US Hospital Parameters

NUMBER OF HOSPITALS	NUMBER OF HOSPITAL BEDS	OCCUPANCY RATE OF HOSPITALS
> 5,560 in 2016	~ 987,961 in 2016	> 64.6% in 2016
GROSS OUTPUR OF US HOSPITALS	DOCTORS PER 1,000 POPULATION	HOSPITAL BEDS PER 1,000 POPULATION
\$ 802.4 billion in 2015	~ 3.3 in 2016	~ 2.9 in 2016

US Surgeon Number Parameters, 2015		
GENERAL SURGEONS	NEUROLOGICAL SURGEONS	ORTHOPEDIC SURGEONS
~ 25,254	~ 5,346	~ 19,145
THORACIC SURGEONS	VASCULAR SURGEONS	
~ 4,485	~ 3,358	



CLEARCAM CUSTOMER PSYCHOGRAPHICS

Decision Making Parameters, Decision Making
Parameters

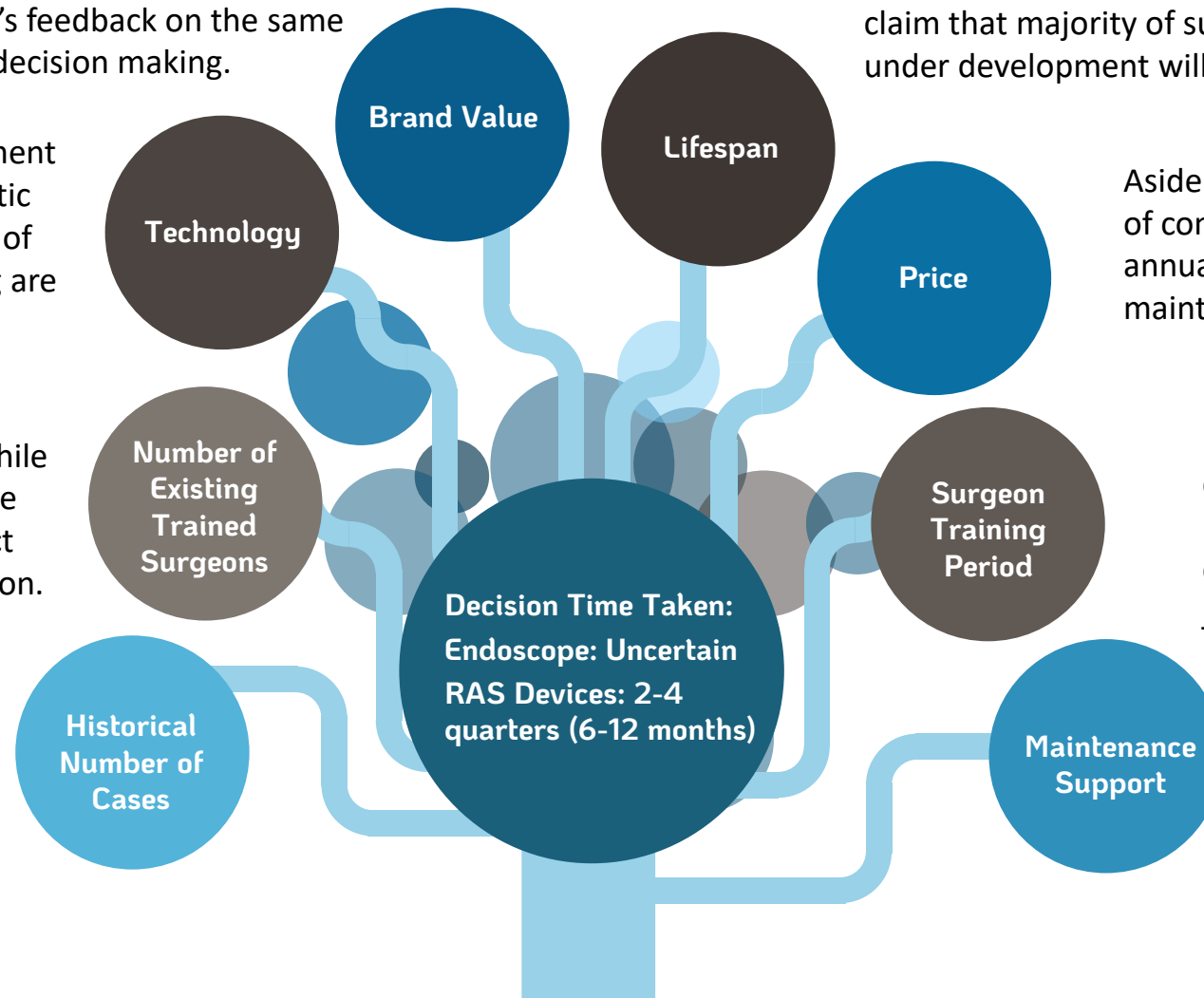
Quite often, the purchase decision is determined by the brand value. Adoption rate of a particular brand and surgeon's feedback on the same hugely affects the decision making.

Most surgical robots have a lifespan of around 10 years with regular maintenance. Developers claim that majority of surgical robots currently under development will have a higher lifespan.

Advanced features such as instrument using convenience, 3D image, haptic feedback, high degree of freedom of robotic arms and surgical planning are desired by surgeons.

Existence of trained surgeons in a hospital is an added advantage while making a purchase decision, as the hospital can straight away conduct surgical procedures post installation.

Hospitals analyze the annual number of cases they receive for that particular therapeutic condition



Aside system cost, there exist high cost of consumables per procedure and an annual service contract for regular maintenance.

The cost-benefit analysis becomes more important as training is quite a concern for most surgical instruments. It is imperative for hospitals to consider the proficiency threshold to justify the purchase decision.

Maintenance contract and regular services should be carefully looked into before making a purchase decision.

CLEARCAM COMPETITIVE LANDSCAPE MAGIC QUADRANT

Leaders, Challengers, Visionaries, Niche Players

Parameters Definition

Y axis: available funds company obtains, which refers to company revenue or funding from other companies or organizations.

X axis: product attraction, which refers to product diversity, measured by how many categories of product does the company manufacture, and product innovation, measured by number of patents owned by the company.

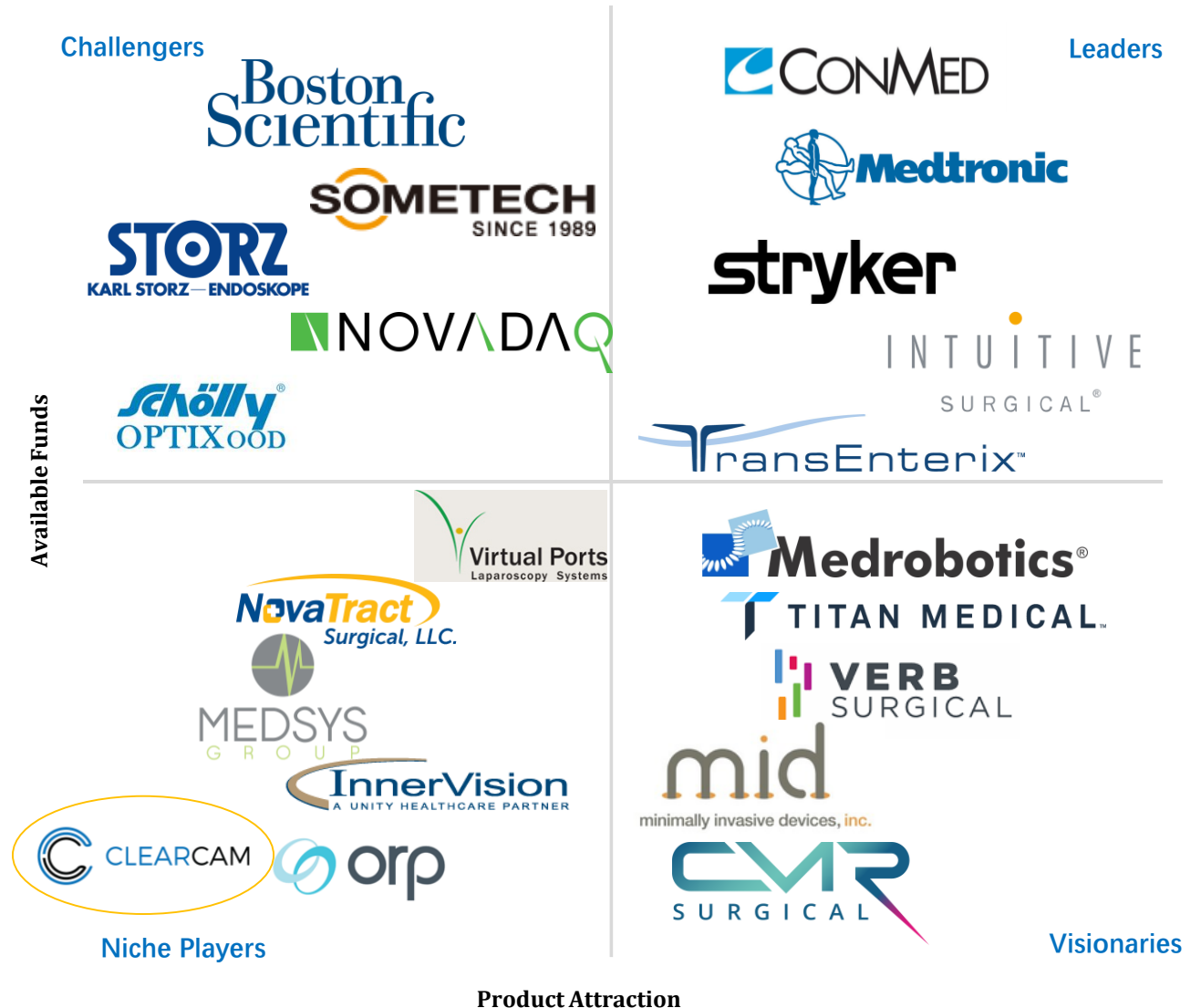
Magic Quadrant Vendors

Leaders: companies who have high revenue annually or funding, and have product attraction to customers.

Challengers: companies with a lot of money but low creativity capabilities.






Visionaries: companies have strong product innovation but low revenue or funding.

Niche Players: companies with narrow product attraction, customer base and market value.



CLEARCAM COMPETITIVE LANDSCAPE TOP 5 COMPETITORS

CMR Surgical Limited, Transenterix, Inc., Titan Medical
Inc., SurgiQuest, Inc., Minimally Invasive Devices, Inc.

Top 5 Competitor	CORPORATE RATE	PATENT NUMBER	Competitive Landscape Conclusion
	● ● ● ● ●	8	<div>RESULT ONE</div> <p>Large companies are major players in advanced laparoscopic camera imaging system market, like robot-assisted surgical system and advanced visualization system. Not too many companies pay attention to cleaning devices during the procedures.</p>
	● ● ●	20	
	● ● ● ●	34	<div>RESULT TWO</div> <p>Most of the transaction companies (include PE transaction and M&A transaction) are robot-assisted surgical device companies. Compared with general cleaning instruments, robotic assisted surgery systems have a wider range of applications and have higher market potential.</p>
	● ● ●	29	
	NA	16	

CLEARCAM PREDICTION CRYSTAL BALL

Trend and Inhibitor, Opportunity and Risk, Acquisition
Candidate



- Desire to take minimally invasive procedures for surgeries
- Increasing age of the overall population and the higher level of chronically ill patients
- Oversea expansion



- High cost of endoscopy procedures
- Lack of skilled endoscopists
- Unfavorable regulations regarding the pricing and could lead to pricing pressure
- Macro economy growth risks



- The aforementioned shortcomings of both open surgery and manual MIS can be somewhat mitigated by the use of robotics to aid in MIS. Acquisition will mainly occur in the robotic-assisted surgical market in the coming years.



- Growing Competition
- Government Regulation, Applications for approvals and clearance like pre-clinical testing, manufacturing, sale, and distribution have not been made and there are no assurances that they will be granted.
- Reliance on manufacturers and suppliers

Acquisition Candidate

The most likely acquirers, Johnson and Johnson (JNJ); Medtronic (MDT); Stryker; Olympus (OCPNY); Carl Zeiss (AFX-GR); and Intuitive Surgical.

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COURSE

COMPETV INTEL RESOURCES/ STRATS