

COMPANY: MAKO Surgical	EPIC: MAKO.O	MARKET CAP: \$1.5bn	RECOMMENDATION: Buy Initiated on 17/06/2012	RISK RATING: 9 CATEGORY: UNRESTRICTED (see bottom of note for risk categories)	PRICE: \$37.13
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MAKO Surgical Corporation is an emerging medical technology company providing surgical robots for orthopaedic procedures, as well as the implants used in the procedures. MAKO is addressing the need for reproducible and accurate procedures in major joint surgery and is in the early stages of both surgeon and patient adoption.

The investment case:

- Demand for joint replacements being driven by ageing population and obesity.
- MAKO technology significantly improves partial knee replacements over traditional surgery in terms of accuracy.
- Allows earlier-stage patients to be treated, increasing the addressable market.
- Technology has been extended into the hip replacement market where there is strong demand for more-precise procedures.

MAKO will not be profitable until 2014, however on an EV/Sales basis it is comparable to its nearest peer, Intuitive Surgical. There is significant upside if the business model and share follows that of Intuitive Surgical.

52 Week High	\$43.00
52 Week Low	\$15.40
Price to Book Value	12.2x
Dividend Yield	-
Free Cash Flow Yield	-
Dividend Cover	-
Net Cash	\$73.5m
Interest Cover	-
Emerging markets sales	25%
Next announcement	6 March 2012

Source: Company Data and Bloomberg Consensus



Note: UK investors may be subject to a withholding tax of 30% on dividends from US companies. Dividend yields are stated gross of this withholding tax. We do not automatically reclaim the withholding tax on investments held with us. This will reduce the amount of dividend income that you receive.

Year End	Sales (\$m)	PBT (\$m)	EPS (\$)	PE (x)	DPS (\$)	Yield (%)
Dec 2010	44	-39	-1.13	-32.9	-	-
Dec 2011	82	-37	-0.90	-41.3	-	-
Dec 2012	130	-21	-0.49	-75.2	-	-
Dec 2013	193	-1	-0.04	-884.0	-	-

Please see our initiation note dated 17 June 2011 for more details.

Background

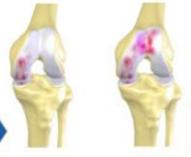
MAKO Surgical Corporation is an emerging medical technology company that provides surgical robots for orthopaedic procedures, as well as the implants used in the procedures. Whilst robotics has had strong adoption in surgery over recent years, this has been predominantly focused on procedures within oncology and cardiology. MAKO is addressing the need for reproducible and accurate procedures in major joint surgery and is in the early stages of both surgeon and patient adoption.

What does MAKO offer

MAKOplasty is made up of the Robotic Arm Interactive Orthopaedic (RIO) surgical platform consisting of a haptic-controlled robotic arm system and patient-specific visualisation software used to plan the surgery; and the RESTORIS proprietary implants. The visualisation software uses a CT scan to create a 3D model, then constructs a template of exactly where the implants are to be inserted, ensuring a perfect fit and minimising the amount of bone that is resected. The surgeon then goes in through a small incision, using the robotic arm with a high precision burr on the tip to sculpt the bone to allow the implants to be precisely placed into a custom fit.

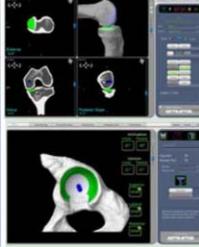
MAKOplasty allows surgeons to perform partial knee surgery through an incision that is 2-3 inches long, whereas total knee replacement procedures are performed through an incision that is 5-8 inches long. In traditional knee replacement, the entire knee joint is fully exposed and much of the bone and tissues surrounding it is removed. However, surgeons can perform MAKOplasty with increased surgical precision through a much smaller incision. The robotic arm of the system assists the surgeon to ensure precise movements, avoid the delicate nerves and blood vessels surrounding the joint, and remove only the bone that has been damaged by osteoarthritis.

The Progression of OA of the Knee

OA Causes	Early to Mid Stage OA	Late Stage OA
		
<ul style="list-style-type: none"> • Physiology • Sports injuries • Wear and tear 	<ul style="list-style-type: none"> • Reduced quality of life • Moderate to substantial pain • Reduced mobility 	<ul style="list-style-type: none"> • Further reduced quality of life • Substantial pain • Further reduced mobility
Arthroscopy	Watchful Waiting	Total Knee Implant

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The MAKOplasty Solution

Robotic Arm	Patient Specific Visualization	Implants
		
RIO® Robotic Arm Interactive Orthopaedic System		RESTORIS® Implant Systems
Tissue Sparing, Minimal Incision, Shorter Recovery, Precise, Reproducible		

The orthopaedic market

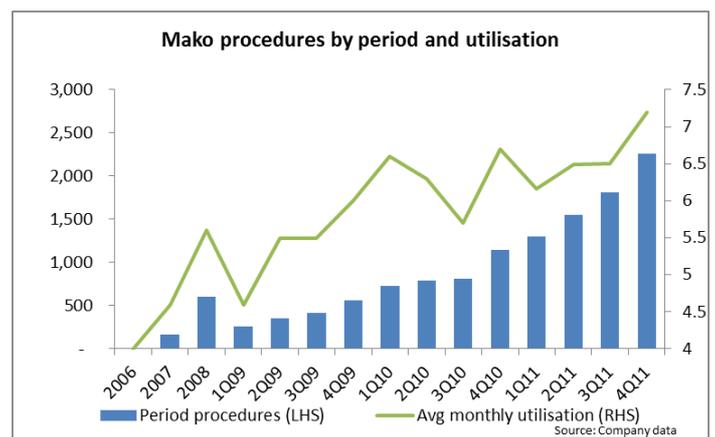
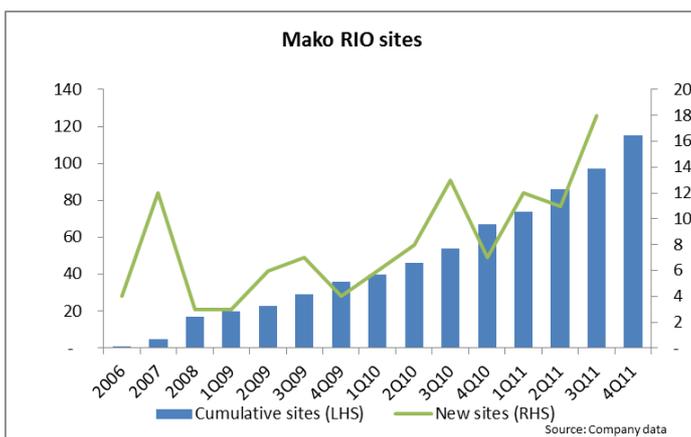
The market for orthopaedics is large and growing. Global revenues were estimated to be \$37.75bn in 2009, of which reconstructive devices represented 35%. Reconstructive devices for knees are estimated to be 18% of total orthopaedics revenues (\$6.8bn), whilst hips are 15% (\$5.7bn). Within the US alone, hip and knee implant revenues are forecast to grow at a CAGR of 7.9% between 2009-2014. This growth is being driven by an increase in osteoarthritis due to a combination of an ageing population and increasing obesity rates. The US population over 55 is growing by 13% p.a. and is expected to expand by 20m by 2020. Obesity is a significant driver of demand for orthopaedics as the additional body weight puts excessive strain on joints, causing earlier deterioration. Everyone gets some amount of osteoarthritis of the hip or knee at some point in their lives.

Needs in the orthopaedics market

- Patients want more natural movement, with shorter recovery, less pain, minimal incision and reduced length of stay.
- Surgeons want reproducible precision with optimal implant orientation in order to enhance their practice and attract patients.
- Hospitals want a competitive differentiator, with a good return on investment model, that reduces the patient's length of stay and attracts patients and surgeons.

Recent results

Mako Surgical reported preliminary Q4 and full-year 2011 operating results on 10 January. During the fourth quarter, 18 RIO systems were sold (11 in Q3 2011), including 2 outside the US, increasing the worldwide commercial installed base to 115 RIO systems, of which 111 are in the US. A total of 48 RIO systems were sold in 2011, a 55% increase over 2010. 2,258 MAKOpasty procedures were performed in the third quarter (1,813 in Q3 2011), a 97% increase over the same period in 2010, and brings the 2011 total to 6,932, a 99% increase over 2010. Average monthly utilisation continues to increase, at 7.2 in the fourth quarter compared to 6.7 a year ago. Guidance for 2012 is for RIO system sales to be 56 to 62 systems, with 11,000 to 13,000 MAKOpasty procedures anticipated to be performed.



In September 2011, MAKO commercially launched MAKOpasty Total Hip Arthroplasty (THA). Subsequent to the commercial launch, twelve MAKOpasty THA applications were sold to the end of September 30, with a further 37 sold in the fourth quarter, bringing the installed base to 49, resulting in 44% of the domestic commercial installed base having MAKOpasty THA application.

We believe that the MAKO Surgical investment case is very strong. It has a first-to-market technology that is highly attractive to patients, surgeons and hospitals. This will allow it to significantly grow its addressable market and installed base. Firstly, we expect it to take market share in existing forecasts of knee replacement surgery, both from traditional uni-compartment partial knee replacement, which is less accurate, and from full knee replacements, where these are for early to mid-stage disease. Secondly, we expect MAKO to expand the market for uni-compartmental partial knee replacement, as surgeons become more comfortable recommending the procedure and young people opt for surgery earlier in the disease's progression. Thirdly, the recent introduction of a bi-compartmental option will extend the addressable market to those patients with mid-stage osteoarthritis. Finally, the introduction of a hip replacement procedure will significantly increase the addressable market, as well as offer the potential to improve utilisation rates. With a unique business model expected to gain significant market share in a growing market, we believe that MAKO represents a good long-term opportunity. **Buy.**

Risks with this recommendation

- Hospital capital spending slows.
- The hip application fails to gain traction.
- Pricing pressure in orthopaedic implant.

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Equity Research			Fund Research		
Large Cap	Mid Cap	Global	Absolute Return	Income	Growth
Investment ideas in the FTSE 100 which we believe will generate returns ahead of the All-Share index.	Investment ideas in the FTSE 250 which we believe will generate returns ahead of the All-Share index.	Global investment ideas which we believe will generate returns ahead of the FTSE World (ex UK) index over the long term.	Funds that aim to generate an absolute return over the medium to long term, i.e. a positive return irrespective of equity or bond market direction.	Income producing funds, which are attractive in the context of the yield available from cash, gilts and UK equities.	Funds which we believe have the potential to generate a high level of capital growth over the long term.

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Daily Note	ETFs Bulletin	Thematic
A summary of the day's newsflow and an update of opinion on covered stocks.	Focusing on London-listed Exchange Traded Funds (ETFs) and Exchange Traded Commodities (ETCs).	A number of direct equity and fund ideas that are well positioned to exploit a key investment theme.

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