

Ekso Bionics

Initiation of coverage

Taking the next step

Ekso Bionics is a development-stage company that produces human robotic exoskeletons, or wearable robots. The company's Ekso GT system is sold to hospitals for lower-body paralysis and weakness rehabilitation, while its Ekso Labs division uses government research grants to develop technology to enhance able-bodied human strength and endurance.

Year end	Revenue (\$m)	Non-GAAP earnings (\$m)	Non-GAAP EPS (\$)	Non-GAAP P/E (x)	P/S (x)
12/14e	5.3	(11.6)	(0.15)	N/A	19.6
12/15e	8.5	(7.9)	(0.10)	N/A	12.2
12/16e	13.5	(5.3)	(0.07)	N/A	7.7
12/17e	20.9	(1.4)	(0.02)	N/A	5.0

Note: Non-GAAP earnings and EPS exclude stock compensation and warrant liabilities.

Robotic exoskeleton pioneer

Ekso Bionics is a pioneer in the emerging field of human robotics. It spun-out from the University of California at Berkeley's Robotics Lab in 2005 and develops its technology through its Ekso Labs engineering service division. This intellectual property is then commercialized into products for volume market applications, the first being lower-extremity weakness and paralysis rehabilitation.

Paralysis patient rehabilitation

The Ekso GT is sold to hospitals and used by lower-body weakness or paralysis patients for rehabilitation purposes. The first system was shipped in February 2012 and the company has delivered over 60 units to approximately 45 facilities as of April 2014. Primary patients include spinal cord injuries (SCI) and stroke victims. We estimate the company can ultimately ship at least 3,000 units to over 10,000 hospitals in North America and Europe at an average selling price over \$100,000.

Valuation: Long-term growth

Ekso Bionics is a recently public, development-stage company that has yet to generate profits in the emerging field of human exoskeletons. We believe these innovative new products will experience considerable growth over the next several years, which is verified to a degree by the handful of competitive suppliers that have recently emerged. Unfortunately, these peers do not yet provide visibility to relative fundamental valuation given a combination of their lack of revenue, profit and history – or even existence – in public equity markets. Our financial model for Ekso Bionics is based on only the first market it is addressing for its products, medical rehabilitation. While the current share price is challenging from a fundamental valuation perspective relative to established suppliers of medical rehabilitation devices, we believe a premium is warranted due to its growth prospects and that multiple avenues exist for considerable upside potential. Nevertheless, the shares of this company are not appropriate for risk-averse investors, in our opinion.

Tech hardware & equipment

30 July 2014

Price **US\$1.33**

Market cap **US\$104m**

Net cash as at 31 March 2014 (\$m) 14.6

Shares in issue 78.5m

Free float 47%

Ticker EKSO

Primary exchange OTC QB

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs (16.0) (53.2) N/A

Rel (local) (16.4) (55.4) N/A

52-week high/low US\$7.65 US\$1.31

Business description

Ekso Bionics is a pioneer in the field of human robotic exoskeletons that augment mobility, strength and endurance. It is a development-stage company based in Richmond, California.

Next event

Q214 earnings 7 August 2014

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Investment summary

Company description: Human exoskeletons

Ekso Bionics produces human robotic exoskeletons, or wearable robots. It spun-out from the University of California at Berkeley's Robotics Lab in 2005 and develops its technology through its Ekso Labs engineering services division. The company's first commercial product is sold to hospitals for lower-body weakness and paralysis rehabilitation. Ekso Bionics today consists of 60 employees located in a 45k square foot facility in Richmond, California.

Financials: Development-stage company

Our model assumes 60 units are shipped this year, growing to 100 next year, and then 170, 300, 460, 620 and 780 in subsequent years. While this reflects significant growth, it is only a fraction of estimated manufacturing capacity approximating over 500 units per quarter (2,000/year) and our extremely conservative preliminary total available market (TAM) estimate of 3,000 cumulative units. We assume the average selling price will remain at or above \$100,000 through 2018 due to high demand for the product's compelling benefits, and the company will achieve 55% product gross margin within its target by the end of 2015 as it begins to engineer for manufacturing cost savings.

Ekso Bionics is a development-stage company that has yet to turn a profit, is consuming cash at \$1m per month and may need to raise more in mid-2015. It raised \$19m in a private placement shortly after becoming a public company via a reverse-merger transaction in January 2014 and carries no debt. In addition, outstanding warrants could generate over \$60m if fully exercised.

Valuation: Abundant growth, significant upside potential

The first mass market that Ekso Bionics is addressing with its human exoskeletons is medical rehabilitation, and the significant advantages it offers to patients is reflected by the unit growth in our financial model. While the current share price presents challenges from a fundamental valuation perspective relative to established medical device comparables, we believe a valuation premium is justified and that multiple avenues exist for considerable potential upside to our estimates. A premium is warranted due to the company's conservative deferred revenue recognition as well expectations for accelerated growth over the next few years, in our opinion. In addition, potential upside may well include: accelerated rehabilitation market adoption, which the company could easily support with its current manufacturing capacity of over 500 units per quarter; engineering service revenue and margin upside from additional projects and licensing agreements; and management's stated goal to enter the home market for its rehabilitation offering and the industrial market for able-bodied products within the next couple years – either one of which could rival the market size its current offering addresses.

Sensitivities: Safety, regulatory and financial

Safety is paramount when treating people, especially those with disabilities, and we would consider the serious injury of a user of the company's device as a worst-case scenario for Ekso Bionics in terms of liability, cost and reputation. Regulators could also be the source of considerable delay and cost. The company's product is listed with the US Food and Drug Administration (FDA) and management believes it is an FDA Class I medical device, meaning it can be used in a clinical setting. However, if the FDA requires the company to apply for approval as a Class II or Class III device it could preclude US clinical sales for however long it would take to complete the required clinical trials.

Financial risk is straightforward: Ekso Bionics has limited experience and resources, is unprofitable and consuming cash, and has declared the potential need to raise capital in mid-2015. We believe

the company's products offer compelling advantages compared to competitors, which should limit immediate competitive threats.

Company description: Robotic exoskeletons

Ekso Bionics designs and builds human exoskeletons primarily for the rehabilitation of patients with mobility impairments such as those caused by spinal cord injuries (SCI) or strokes. It was co-founded by its current CEO and CTO/president of Ekso Labs; the CEO was trained in the emerging field of robotics at Carnegie Mellon and UC Berkeley, and the company started after the CTO/president figured out a way to cut the power requirement in a human exoskeleton robot at the time by factor of 1,000. The company survived in its formative years by collecting government research grants to enhance soldier strength and endurance. Early products included the ExoHiker and ExoClimber, while its contract with Lockheed Martin created the military's HULC (Human Universal Load Carrier) allowing a soldier to carry 200lb over a long distance and rough terrain. The founders turned their human robotic expertise to medical paralysis patient rehabilitation after the brother of one of the founders sustained an SCI injury, and he personally witnessed how antiquated rehabilitation equipment and facilities were. The first Ekso rehabilitation system focused on SCI patients was delivered in February 2012, and a subsequent software upgrade offering Variable Assist and adding stroke and other rehabilitation patients was included in the current Ekso GT in December 2013. Today the company consists of 60 employees located in a 45k square foot facility in Richmond, California.

Robotic exoskeleton technology

Ekso Bionics is a technological leader in the emerging field of human robotic exoskeletons, or wearable robotic suits. CEO Nathan Harding has both academic and professional experience at two of the world's leading robotics institutes, Carnegie Mellon and UC Berkeley, and personally holds 10 patents with another eight pending. The company was spun-out from the University of California at Berkeley's Robotics and Human Engineering Laboratory. Ekso Bionics is located in Richmond, CA, just down the road from their first location in Berkeley, CA. The two organizations have shared personnel and have collaborated on a number of projects. They also share intellectual property on a formal basis. Ekso Bionics claims seven issued patents and 23 pending across actuator technology and medical, commercial and strength-enhancing exoskeletons. Six of the seven issued patents are owned by UC Berkeley and exclusively licensed to Ekso Bionics, while the seventh is co-owned by both parties and exclusively licensed to Ekso Bionics. These licenses cost Ekso Bionics 1% of sales (US government excluded), although it has rights to sub-license and has generated \$1m in such revenue to-date. Ekso Bionics also has various rights, restrictions and costs associated with technology generated through government contracts. While patents are a convenient measure of nominally defensible technological expertise, the majority of system components in Ekso Bionics products are commercially available off-the-shelf. We consider experience, application and system familiarity to be the primary factors contributing to the company's technological competitive advantage, which would be very difficult to replicate.

The Ekso GT product

The Ekso GT is a human robotic exoskeleton. Users strap it on like a backpack and then secure their legs in place with Velcro straps. The system is used with two forearm crutches for stabilization (or at least one for non-SCI patients) and one crutch has two buttons: one to turn it on (or rather out of standby mode); and the second to initiate the first step with the right leg. A trained physical therapist (it takes a week to train) will typically stand behind the user for safety (to ensure the user does not fall) and to administer step control functions via an attached control pad, at least initially until both the patient and the system learn how to work together. The frame is adjustable for

different body sizes and the Variable Assist software adapts to the individual's specific walking impairment with experience. Various sensors in the frame measure weight distribution and balance, and these clues become the triggers to initiate steps. A typical rehab session lasts one hour; it takes only five minutes to mechanically adjust the frame for an experienced user who then stands and takes one step at a time. Two hundred steps in a first session is not unusual and several experienced users have logged 3,000. Enhancements include Variable Assist software added to the GT model that enables users with some leg movement to initiate walking on their own, and the Ekso Pulse feature attaches a mobile cellular device to the exoskeleton that automatically sends data back to headquarters for evaluation.

The system can actually walk by itself without an occupant, and an SCI complete patient (lower body paralysis with little chance of regaining function) can use the system. The user must have at least some upper-body capabilities to balance with the crutches and shift weight to trigger the system's sensors (typically no worse than a clinical 'C-7 complete'). Its Variable Assist software expands use from spinal cord injuries to stroke and other neurological impairments where the patient has at least some motor ability and the potential to learn how to walk again. The current GT model can fit persons ranging from 5'2" to 6'2" tall and under 220lbs, although these measurements vary depending on specific proportions and capabilities. Other patient-appropriate factors include attitude, age and strength; elderly people with limited strength and patients who have given up hope may lack the capability or motivation to put forth the effort and reap the benefits.

Exhibit 1: Ekso Bionics Ekso GT Product



Source: Ekso Bionics

Exhibit 2: Exoskeleton in-use



Source: Ekso Bionics

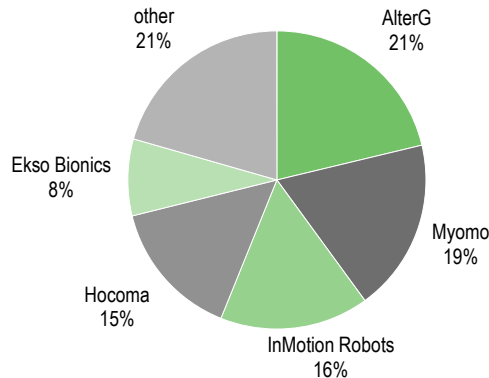
The Ekso GT currently lists for \$180k each, which includes the hardware, software, training, technical support, maintenance and a service contract. Current selling prices average over \$120k, although eventually costs could drop to support half that in a few years. The company is only just beginning to engineer manufacturing cost savings, having focused on safety, functionality and features to-date. The product is assembled via components from 70 suppliers, of which two-thirds are standard and one-third built to specification. Each kit takes 50 man-hours to assemble and 15 hours to test (but estimated to drop to 32 man-hours shortly), and the company's current 45k square-foot facility could manufacture 160 units a month or 500 per quarter across two shifts without significant capital expenditures (although it would be a bit cramped, in our opinion).

Rehabilitation market

An accurate forecast for the total available market opportunity for human robotic exoskeletons is elusive, although will likely emerge with some clarity as it develops over the next couple of years. Nevertheless, we believe worldwide consumption can easily approximate 3,000 cumulative units until such market potential clarity emerges.

WinterGreen Research estimates a total market for rehabilitation robots of \$43.3m in 2013 growing to \$1.9bn by 2020 including units from 2.7k to 125k annually of mostly low-end, upper-body (arm and hand) systems. Lower-extremity systems are estimated at 5% of the unit total growing from 136 to 6,800 annually over that timeframe. That forecast assumes 800-900 high-end physical rehabilitation locations worldwide that would consume multiple systems per facility. Ekso Bionics ranked fifth last year in terms of revenue market share, as shown below, although its peers serve different market needs with different offerings across a wide range of price points. Competitive alternatives are addressed later in this report.

Exhibit 3: Rehabilitation robot market 2013 sales, \$m



Source: WinterGreen Research

There are 5,700 hospitals in the US and Europe claims 12,000, of which 4,600 are acute care facilities. Spinal cord injury patients total 264,000 in the US with additional annual occurrences of 12-14 thousand according to the National Spinal Cord Injury Statistical Center. Spinal cord injury patients tend toward a younger demographic. The US also claims seven million stroke survivors growing by 650 thousand every year, and likely to increase with an ageing population. Ekso Bionics could assist patients with other conditions to regain mobility, including multiple sclerosis, knee-replacement surgery, hip-replacement surgery, cerebral palsy, exercise injuries, falls, arthritis, traumatic brain injury (TBI), amyotrophic lateral sclerosis and Parkinson's disease.

If we assume that less than one-third of over 10,000 locations take at least one system each sometime over the next few years, this supports our 3,000 unit estimate. And this is likely very conservative (possibly by a factor of 10), given that two of Ekso Bionics' current 45 customer facilities are already using three or four units. The company estimates that each hospital location could use between one and five systems with a three- to five-year lifecycle per system, implying a cumulative unit market approximating 30,000.

Rehabilitation benefits

We believe the benefits provided by the Ekso GT are not only significant and meaningful to patients, but extend to the hospital as well. Usage to date indicates that patients benefit both emotionally and physiologically and that the health care facility saves money and improves morale and its reputation, associated with more effective patient care.

The emotional benefit of standing and walking to wheelchair users is unfathomable to those of us not in that situation, and the tear-jerking testimonials are numerous. Many patients love the Ekso GT, want to use it, and some compete in terms of number of steps taken. While current availability of the 60+ units across North America and Europe is somewhat limited, word of mouth among patients travels fast and anecdotal stories exist of users traveling hundreds of miles and paying out-of-pocket premiums to use the device. While these examples are exceptional, they underscore the popularity of the device.

From a medical perspective, the physiological benefits are equally as pronounced. In addition to the physical impairment itself, paralysis and neurological impairments typically cause a number of debilitating side effects that include pressure sores, urinary tract infections, bowel problems, pneumonia, bone loss/osteoporosis, cardiovascular disease, and other respiratory issues and psychological disorders. The Ekso system requires the patient to stand up and strain muscles and bones that deteriorate due to the lack of use, as well as re-establish the brain's neurological connection to the actual movement (neuroplasticity). Physical therapists like it because it assists the patient in natural movement, rather than contrived exercises lacking a holistic body approach. The earlier mobilization of impaired patients offered by the Ekso GT appears to alleviate the side effects mentioned above; alleviating these side effects makes for healthier patients; healthier patients require shorter hospital stays; and shorter hospital stays save money and allow the hospital to treat more patients. Physical therapists, doctors and hospital administrators get the satisfaction of making patients happier and healthier; reputational benefits associated with those successes; and cost savings and increased patient treatment capacity as well.

Competition

Ekso Bionics competes with a different set of competitors for lower-extremity spinal cord injuries than it does for stroke/rehabilitation uses: it competes with other over-ground exoskeleton manufacturers for complete spinal cord injuries that include ReWalk Robotics, Cyberdyne and Rex Bionics, while it competes with alternative treadmill-type technologies in the stroke recovery segment.

Spinal cord injury (SCI)

The primary advantages that Ekso Bionics offers over its SCI competitors include the ability to support partial or 'incomplete' lower-body paralysis, hemiparesis or one-sided paralysis, and more convenient adjustability for different body sizes. Its Variable Assist software is key to supporting incomplete paralysis and hemiparesis, which is estimated to account for approximately one-half of the quarter-million SCI patients in the US growing by 12-14k per year.

ReWalk Robotics (formerly Argo Medical Technologies), based in Israel, offers a not-dissimilar human exoskeleton that also employs crutches and is a viable alternative for SCI-complete patients seeking to stand and walk. The company was founded in 2001 and its offering predates that of Ekso Bionics, but it has emphasized sales to individuals in Europe over those to rehabilitation facilities. On 26 June it obtained US FDA approval for sale to SCI patients when "accompanied by a specially trained caregiver." However, the walking robotic device is not as well suited for incomplete lower-body paralysis patients and has been placed in fewer rehabilitation facilities than Ekso Bionics. The company has recently filed to become publicly traded in the US and is not profitable.

Cyberdyne is a regional player in Japan offering an impressive-looking human exoskeleton, although detailed specifications are elusive and the company appears to be pursuing a kind of concierge rehabilitation/spa type business model rather than selling devices. Cyberdyne trades as a public company in Japan and has yet to generate a profit.

Rex Bionics in New Zealand also offers a not-dissimilar mechanical walker for users with full lower-body paralysis boasting hands-free operation without crutches, although it has shipped only a few systems to-date. Rex Bionics has yet to recognize revenue and recently became publicly traded in the UK.

Parker Hannifin has announced plans to introduce an offering called Indego in 2015 that could prove to be a threat given the timing with respect to available technology and its vastly greater corporate resources, although Ekso Bionics clearly has a market lead.

Only Cyberdyne can potentially serve any of the half of the market that is SCI-incomplete, while Ekso Bionics can serve the vast majority of all of it.

Stroke recovery/rehabilitation

Ekso Bionics significantly expanded its serviceable market when it introduced its Variable Assist software in July 2013. At that point it was no longer restricted to the half of the quarter-million SCI-complete patient portion of its exoskeleton peers, but added the other half of the SCI market as well as over six million stroke patients growing by 650k annually, not to mention the range of other conditions involving mobility impairments cited earlier in this report. Variable Assist offers profound advantages over other exoskeleton offerings in the SCI market, but Ekso Bionics has virtually no exoskeleton-based competition in the stroke recovery/rehabilitation market.

In the stroke recovery segment, Ekso Bionics competes with a variety of alternative contraptions that suspend the user above a treadmill in various kinds of harnesses including Hocoma's Lokomat product, Reha Technology's G-EO and Aretech's ZeroG. The Ekso GT robotic exoskeleton is a noticeably different and far superior alternative, according to physical therapists and doctors we have spoken with. AlterG's Tibion device appears to most closely resemble Ekso Bionics' mechanical leg structure, although it only supports one leg and does not extend above the hip or across the spine. The rehabilitation market is over an order of magnitude greater than the SCI market, and we believe its human exoskeleton with Variable Assist offers significant advantages over competitive alternatives in both markets.

Ekso Labs

Ekso Labs is the development arm of Ekso Bionics. It advances its robotic technology via military and government contracts and grants, enhancing the endurance and strength of able-bodied personnel with its human exoskeleton. Revenue and COGS are reported as separate line items on the income statement, and we view the operation as a profitable technology development enterprise. In fact, we consider the full development effort by the company as the combined total of R&D expenses and engineering service COGS, and agree with management that this is a critically enabling component advancing its technological expertise over the longer term. The good news is that it more than pays for itself, but the bad news is that the business is of limited scalability and growth due to its engineering subcontract nature. We expect it to persist as a strategically important piece of the operation, albeit of a shrinking portion of sales as the rest of the business expands. The CEO views Ekso Labs as an incubator that generates market opportunities with a three-year jump on competition.

Ekso Labs was awarded the 12-month, \$1m, fixed-price contract from US Special Operations Command to develop the Tactical Assault Light Operator Suit (TALOS) 'Iron Man' suit in December 2013. Previous projects included HULC, the Human Universal Load Carriage suit, allowing soldiers to carry heavy loads over long distances, and MANTIS, a US Naval Shipyard contract enabling industrial workers to perform heavy-duty work for extended periods. Both of these were collaborative partnerships with Lockheed Martin, which has been a strategic partner that has purchased \$6m in engineering services from Ekso Bionics and paid \$1m in licensing fees. Other customers include the Defense Advanced Research Project Agency (DARPA) and the National Science Foundation (NSF). Management is looking to add another project in 2014.

Competition

In the able-bodied, industrial and military contract market, Ekso Bionics and partner Lockheed Martin compete with Raytheon, Panasonic and Honda. While this is worth noting as an indication of competitive technological expertise, we do not consider it a threat to foreseeable business prospects at Ekso Bionics given its market focus on medical rehabilitation.

2014 milestones

Key milestones identified by management for the balance of 2014 include adding another Ekso Labs project; expanding licensing partnerships; users of Ekso medical devices achieving a cumulative 10m steps; and accumulating additional clinical research of demonstrable benefits.

10m steps

The 10m step goal is a subtle, but important, milestone as a measure of use and experience for Ekso Bionics medical devices. As experts in the newly emerging field of robotics, management is acutely aware of the developmental nature of the technology and the need to gather as much experience as possible to correct shortcomings and enhance functionality and features. The more steps taken, the more experience gained, and the better the product becomes. As of April 2014, over 7.8m steps had been taken by 2,400 cumulative users on 60 units in 45 facilities across 15 countries, and the company hopes to have one million people stand and walk in Ekso devices by February 2022, 10 years after the first product was delivered. The Ekso Pulse feature that adds a mobile cellular device to the system collects and transmits such data on an ongoing basis.

Clinical studies

Research studies quantifying tangible patient benefits from use of the Ekso device will also help the company's sales effort. While significant qualitative and quantitative benefits are already occurring, the results are anecdotal, especially to stroke patients, with the Variable Assist feature introduced in July 2013. Large-scale results from multiple patients across multiple facilities make for a much smoother sell of six-figure capital investments to hospital CEOs and CFOs. Studies have been presented to-date by the Kessler Foundation, Santa Clara Valley Medical Center, The Miami Project to Cure Paralysis of the University of Miami, and the Rehabilitation Institute of Chicago, and Glostrup Hospital in Denmark will soon begin one encompassing multiple locations. Previous studies have demonstrated that early mobilization of patients results in fewer secondary complications and shorter hospital stays. However, direct results demonstrating earlier mobilization of more difficult patients, specifically associated with the Ekso GT, are preferable.

Management

Nathan Harding, the CEO, and Russ Angold, the CTO and president of Ekso Labs, co-founded the company. Nate has both academic and professional experience at Berkeley and Carnegie Mellon, two of the world's leading robotics programs, while Russ is credited with figuring out how to significantly cut the power requirement for a human exoskeleton. In addition, both the CFO and COO bring decades of experience in their respective disciplines.

Early in 2014 the company added significant expertise to specifically address the medical rehabilitation market, including Glenn Davis as VP of sales, Americas with 23 years of experience at Siemens Healthcare, most recently in the ultrasound division; and Thomas Looby, chief marketing officer, with over 20 years of experience at Given Imaging, the camera-in-a-pill company, as well as Bayer and Eastman Kodak.

Sensitivities

The tremendous benefits that Ekso Bionics offers patients and hospitals come with significant investment risks: safety, regulatory and financial. Competitive risk is currently limited, in our opinion.

Safety

Safety is paramount when treating people, especially disabled people, and the absence of safety would reflect the worst-case scenario for Ekso Bionics, in our opinion. Unfortunately, the potential for serious injury of a user is not as impossible as we would hope due to the nascence of robotic technology and the use of it by people with serious impairments. We believe management is fully capable and appropriately sensitized to such potential risk, both in word and deeds: the countdown to 10m steps, push for clinical study results, introduction of Ekso Pulse data collection, and previous withholding of unit shipments in lieu of physical therapist training are excellent examples. We consider such risk to be manageable, but it is very real nonetheless.

Regulatory

Regulators could also be the source of considerable potential delay and cost. The Ekso GT is listed with the US Food and Drug Administration (FDA) and has received a CE mark indicating compliance with European Union legislation. Management believes its product is an FDA Class I medical device when used in a clinical setting, although the FDA has not made such determination nor is it required to do so. The FDA may require the company to apply for approval as a Class II or Class III medical device, which could preclude marketing in the US for clinical use for months or years depending on the timing associated with the transition and required clinical trials, not to mention the costs. We consider the current regulatory environment in the US to be less than favorable in a general sense on a historical basis, although we also assume caution and sensitivity to safety noted in the above paragraph will similarly mitigate regulatory risk.

Financial risk

Financial risk at Ekso Bionics is straightforward. The company is young, has limited experience and resources, is unprofitable and consuming cash, and has declared the potential need to raise capital in mid-2015. Ekso Bionics is not appropriate for risk-averse investors, in our opinion.

Valuation

Ekso Bionics is trading at levels above those of its medical device comparables in terms of valuation fundamentals. Nevertheless, we believe a premium is justified and there are multiple avenues that could provide considerable potential upside to our estimates as presented: a valuation premium is warranted due to its conservative revenue recognition and accelerated growth over the next few years; and potential upside could easily occur from some combination of accelerated rehabilitation market adoption, engineering service revenue and margin upside from additional projects and licensing agreements, and its intent to enter the home market for its rehabilitation offering and the industrial market for able-bodied products over the next couple of years, either of which could rival the market opportunity offered by medical rehabilitation, in our opinion.

Medical device and rehabilitation peers

The exhibits below contain two sets of comparables for Ekso Bionics: a set of large medical device companies, and a set of smaller medical device companies focused on the rehabilitation market. A more appropriate set of competitive peers provides limited insight at this time: Cyberdyne is public in Japan but lacks profitability; Rex Bionics recently became public in the UK but lacks revenue;

and ReWalk Robotics has filed in the US, but is not yet listed as of this writing. The large companies in the tables below currently trade at a slight premium to the smaller companies in terms of price-sales and price-book ratios, although the smaller companies command a greater and wider variance in terms of price-earnings. Peer average price-sales ratios range from 3x to 4x, price-earnings range from 20x to 30x, and price-book ranges from 3x to 4x.

While it is difficult to compare the valuation of a development-stage company with a limited revenue base such as Ekso Bionics to established enterprises, we believe these metrics provide a relevant basis to gauge fundamental share price valuation as Ekso Bionics progresses towards its potential.

Exhibit 4: Large medical device company peer comparison

Company	Ticker	Price	Shares (m)	Market cap (\$m)	FY	TTM		P/S			P/E			Div yield	
						Rev (\$m)	GM	TTM	Cur FY	Nxt FY	TTM	Cur FY	Nxt FY		P/B
Ekso Bionics*	EKSO	1.33	78.5	104	Dec	3.7	25.9%	28.4	19.8	12.3	-	-	-	-	
Abbott Laboratories	ABT	42.93	1,500.0	64,395	Dec	21,820.0	54.1%	3.0	2.9	2.7	27.9	28.2	17.4	2.8	2.2%
CR Bard	BCR	153.13	76.3	11,678	Dec	3,150.0	59.0%	3.7	3.5	3.4	15.6	16.2	16.6	6.6	0.6%
Covidien	COV	87.10	450.9	39,272	Sep	10,440.0	58.2%	3.8	3.7	3.5	26.3	25.1	19.8	4.1	1.4%
Edwards Lifesciences	EW	84.90	105.5	8,956	Dec	2,070.0	73.4%	4.3	4.1	3.9	30.8	30.9	23.4	6.7	-
Hologic	HOLX	25.88	276.3	7,151	Sep	2,470.0	47.0%	2.9	2.9	2.8	-	NM	16.8	3.5	-
Intuitive Surgical	ISRG	465.29	38.4	17,867	Dec	2,050.0	77.6%	8.7	8.6	7.7	38.2	35.3	25.7	6.0	-
Medtronic	MDT	62.76	995.8	62,496	Apr	16,890.0	75.0%	3.7	3.5	3.4	20.8	20.8	14.5	3.2	1.9%
St. Jude Medical	STJ	66.76	284.2	18,973	Dec	5,570.0	70.6%	3.4	3.3	3.2	21.5	26.0	15.5	4.8	1.5%
Stryker	SYK	80.09	379.1	30,362	Dec	9,290.0	65.0%	3.3	3.1	3.0	44.7	39.8	15.2	3.4	1.4%
Zimmer Holdings	ZMH	100.57	167.8	16,876	Dec	1,660.0	201.2%	10.2	3.6	3.4	22.0	22.7	15.5	2.6	0.8%
Peer average								4.7	3.9	3.7	27.5	27.2	18.0	4.4	1.4%

Source: *Edison Investment Research, Capital IQ. Note: Priced at 28 July 2014.

Exhibit 5: Smaller rehabilitation market medical device company peer comparison

Company	Ticker	Price	Shares (m)	Market cap (\$m)	FY	TTM		P/S			P/E			Div yield	
						Rev (\$m)	GM	TTM	Cur FY	Nxt FY	TTM	Cur FY	Nxt FY		P/B
Ekso Bionics*	EKSO	1.33	78.5	104	Dec	3.7	25.9%	28.4	19.8	12.3	-	-	-	-	
Holl-Rom	HRC	40.06	57.2	2,292	Sep	1,670.0	46.7%	1.4	1.4	1.4	34.6	34.6	15.7	2.9	1.5%
Inogen	INGN	19.31	18.2	351	Dec	83.3	46.8%	4.2	3.7	3.2	44.9	44.7	62.0	3.2	-
Invacare	IVC	15.01	32.2	483	Dec	1,320.0	28.6%	0.4	0.4	0.3	-	NM	16.7	0.8	0.3%
ResMed	RMD	51.00	140.3	7,155	Jun	1,550.0	60.7%	4.6	4.6	4.2	22.4	22.4	19.4	4.2	1.9%
Tandem Diabetes Care	TNDM	12.87	23.0	296	Dec	31.6	19.5%	9.4	5.8	3.6	-	NM	NM	3.1	-
Peer average								4.0	3.2	2.5	34.0	33.9	28.4	2.8	1.2%

Source: *Edison Investment Research, Capital IQ. Note: Priced at 28 July 2014.

Valuation premium

We believe Ekso Bionics deserves a premium valuation relative to its medical device comparables at this time. First, due to the conservative nature of its deferred revenue recognition accounting policy; and second, due to the accelerated expected growth the company is expected to experience over the next few years. The company recognizes revenue by month over the 36-month expected life of the Ekso GT product. While it collects receivables within the standard 30-day window after shipment, the balance sheet line items deferred revenue and deferred COGS reflect the value of the product that has been shipped. Note in our forecast spreadsheet on page 13 of this report that the value of shipped product is approximately double that of recognized revenue for each of the next several years. Accelerated growth serving an emerging market also justifies a richer fundamental valuation, in our experience.

Upside potential

Medical rehabilitation is only the first mass market that Ekso Bionics is addressing with its human exoskeleton offering, and it enjoys multiple avenues that could provide considerable potential upside to our current financial model, as presented: accelerated growth of its core medical

rehabilitation market; engineering service and license upside; and expansion into home rehabilitation and able-bodied industrial markets.

Our current financial model assumes that Ekso GT unit shipments grow by slightly less than double each year over the next six years, and both the company and the market could easily support much larger numbers. The company can currently ship over 2,000 units per year with two shifts working in its existing facility, although it would have to hire additional manufacturing personnel – and that volume could approach 3,000 as efficiencies are implemented over the next few quarters. While we have initially sized the medical rehabilitation market for human exoskeletons at a conservative 3,000 units, it could easily approach 10-times that size, and technological advances could obsolete those installed offerings every three to five years.

Engineering service and license revenue could also provide meaningful upside. License revenue falls through the income statement at nearly 100% gross margin, although is likely to be lumpy and opportunistic in nature. Engineering service revenue growth is dependent on project availability and is somewhat limited by the scaling of available engineering personnel, although certain projects may result in production volume requirements measured in dozens or hundreds of units at highly attractive average selling prices per unit.

Finally, management has clearly indicated intentions to pursue the home-based rehabilitation market, as well as able-bodied industrial applications. Some portion of the 267,000 SCI patients in the US (and others across the rest of the world) would be the primary target for the home-based rehabilitation market, while the heavy work of manual labor in shipyards and other industrial applications could also easily benefit from at least a couple thousand able-bodied enhancement units worldwide. The company may begin to entertain such opportunities as early as next year, although incremental resources will likely be required to support them.

Reverse DCF and scenario analysis

We have also used a 10-year, three growth phases, reverse DCF to determine what performance is currently being priced into the stock. Using our revenue assumptions shown in Exhibit 6 out to 2020 (47% revenue CAGR) followed by a moderate growth phase of 6.5% revenue CAGR out to 2024 and then terminal growth of 3%, with a WACC of 12% and EBITDA margins of 26%, the DCF produces a value of \$1.39. This multi-stage growth assumes revenue of \$55m in 2020 on unit sales of 780 units, growing to revenue of \$70m in 2024, which is a CAGR of 30% for the full 10-year period. In terms of unit sales this requires 780 units to be sold in 2020, which can be achieved with current production capacity and our conservative total addressable market size (within healthcare alone) of 3,000 units. Expansion into other industries and applications could provide upside. Exhibit 6 shows a scenario analysis that quantifies the potential impact of a range of unit sales scenarios on the DCF valuation. For this scenario analysis, we have assumed a WACC of 12% and terminal growth of 5%.

Exhibit 6: Scenario analysis			
Case	2020 cumulative units	2020 revenue (\$m)	Price
Worst	2,017	44	\$0.65
Reverse DCF	2,535	55	\$1.39
Upside	5,910	128	\$8.76
plus Retail*	8,530	175	\$13.24
plus Industrial*	9,625	198	\$15.45

Source: Edison Investment Research. Note: *Lower ASP is assumed for retail and industrial applications.

Financials

Earnings model methodology

See Exhibit 8 below for our forecast assumptions. We forecast Ekso GT units, average selling price, and gross margin by quarter to generate medical device sales and COGS. For engineering services, we simply estimate revenue and gross margin. The total revenue is then added to our income statement model where we derive earnings after operating expense assumptions.

Our model assumes 60 units are shipped this year, growing to 100 next year, and then 170, 300, 460, 620 and 780 in subsequent years. While this reflects significant growth, it is only a fraction of estimated manufacturing capacity over 500 units per quarter (2,000/year) and our extremely conservative preliminary total available market (TAM) estimate of 3,000 cumulative units. We assume the average selling price will remain at or above \$100,000 through 2018 due to high demand for the product's compelling benefits, and the company will achieve 55% product gross margin within its target of 50-60% by the end of 2015 as it begins to engineer for manufacturing cost savings.

We assume limited growth in engineering services revenue, since these project-oriented contracts require engineering development that can be scaled only by adding capable engineering talent. This revenue and margin is also likely to be lumpy since it will include periodic license revenue recognized at nearly 100% gross margin. The strategic nature of the engineering services contract work is also reflected in our income statement, where we reflect the total R&D effort by adding R&D operating expenses to engineering service COGS on a separate margin line item.

Balance sheet

The balance sheet items deferred revenue and deferred COGS are important factors in this model. The company recognizes revenue by month over the 36-month life of the Ekso GT product, although it collects the vast majority of the unit price in cash within the 30-day payables window. Our model approximates this 36-month window by 12 quarters; we recognize 1/12th of the revenue in the quarter the units ship, and then amortize the balance in even increments over the next 11 quarters. Note that the value of devices shipped on an annual basis is approximately double that of recognized revenue over each of the next several years.

Cash flow

Ekso Bionics turns cash-flow positive in our model in Q416 when 50 units are shipped at a \$115,000 ASP and 55% gross margin, and begins to generate non-GAAP earnings in Q417 when 90 units are shipped at a \$110,000 ASP. Our non-GAAP income statement model excludes \$370,000 per quarter in stock compensation charges, as well as warrant liabilities that will fluctuate quarterly commensurate with the share price. The company is currently consuming \$1m of cash per month, and may need to raise more mid-2015.

Q114 review

Q114 revenue totaled \$1.1m and consisted of \$527k of medical device product sales and \$535k worth of engineering services. The company has delivered over 60 total Ekso systems to rehab facilities, including 12 in the last quarter. System sales include hardware, software and services that total over \$120k per unit, and revenue is recognized over the 36-month life of the products. The engineering service revenue was primarily generated from its current TALOS project with Lockheed Martin. Gross margin was 45.2% including 37.4% from medical devices and 52.9% from engineering services. Cash totaled \$14.6m with virtually no debt and deferred revenue totaled \$5.4m associated with its revenue recognition accounting. Non-GAAP net loss for the period totaled

\$4.3m or \$0.06 per share excluding \$357,000 in ongoing stock compensation charges and a non-cash warrant liability of \$77.8m. The GAAP loss was \$81.7m or \$1.22 per share on 67.1m shares.

Long-term outlook

Management did not offer near-term financial guidance when it announced Q114 results. Its longer-term financial target calls for gross margin approaching 60%, research and development at 7-8% of sales, sales and marketing at 20%, and general and administrative at 9-10%. The total R&D effort includes engineering service COGS. At Q413 it had federal and state operating loss tax carry forwards of \$34.3m and \$29.2m that begin to expire in 2027 and 2017, respectively.

Shares and warrants

The outstanding share count totaled 78.5m as of 30 April 2014, although diluted shares approximate 129.5m including all outstanding warrants. A private placement offering (PPO) occurred shortly after the reverse merger with PN Med Group on 15 January 2014 when the company became publicly traded. Note the company could avoid future potential dilutive capital additions with the receipt of funds from the exercise of outstanding warrants.

Exhibit 7: Warrants outstanding, as of May 2014

Warrants	Shares	Price
Bridge Notes, 3 years	2,500,000	\$1.00
PPO Warrants, 5 years	30,300,000	\$2.00
Bridge Agent, 5 years	500,000	\$1.00
PPO Agent, 5 years	2,530,000	\$1.00
Prior to PPO, 6 years cashless	621,363	\$1.3781
Prior lender, 3 years	225,000	\$1.00
Incentive awards	14,410,000	various
Total warrants	51,086,363	

Source: Ekso Bionics

Exhibit 8: Ekso Bionics forecasts

\$000s	2012	2013	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Medical Device Units	20	25	60	100	170	300	460	620	780
Unit Price (\$,000)	135.0	118.4	121.0	120.0	115.0	110.0	100.0	90.0	85.0
Device Value	2,700	2,960	7,260	12,000	19,550	33,000	46,000	55,800	66,300
Device Rev Amortization	225	247	605	1,000	1,629	2,750	3,833	4,650	5,525
Previous Rev Recognition	338	1,364	2,702	5,064	8,900	15,183	24,530	35,617	46,450
Deferred Revenue	2,138	3,487	7,955	13,891	22,912	37,978	55,615	71,148	85,473
Cumulative Units	20	45	105	205	375	675	1,135	1,755	2,535
Cum Units <12 quarters	20	45	105	185	330	570	950	1,425	1,965
Medical Device Revenue	563	1,611	3,307	6,064	10,529	17,933	28,363	40,267	51,975
Medical Device COGS			1,938	2,970	4,738	8,070	12,018	16,107	20,790
Medical Device GM			41.4%	51.0%	55.0%	55.0%	57.6%	60.0%	60.0%
Reported Medical Rev	566	1,612							
Reported Medical COGS	553	1,461							
Reported Medical GM	2.3%	9.4%							
Engineering Service Rev	2,140	1,690	2,035	2,400	3,000	3,000	3,000	3,000	3,000
Engineering Svc COGS	1,783	1,254	1,227	1,560	1,950	1,950	1,905	1,845	1,800
Engineering Svc GM	16.7%	25.8%	39.7%	35.0%	35.0%	35.0%	36.5%	38.5%	40.0%
Total Revenue	2,706	3,302	5,272	8,464	13,529	20,933	31,363	43,267	54,975
Total COGS	2,336	2,715	3,165	4,530	6,688	10,020	13,923	17,952	22,590
Total GM	13.7%	17.8%	40.0%	46.5%	50.6%	52.1%	55.6%	58.5%	58.9%

Source: Ekso Bionics accounts (actual), Edison Investment Research (forecasts)

Exhibit 9: Ekso Bionics income statement

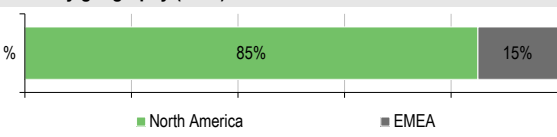
\$000s	2012	2013	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Medical Devices	566	1,612	3,237	6,064	10,529	17,933	28,363	40,267	51,975
Engineering Services	2,140	1,690	2,035	2,400	3,000	3,000	3,000	3,000	3,000
Total Revenue	2,706	3,302	5,272	8,464	13,529	20,933	31,363	43,267	54,975
Medical Device Cost	553	1,461	1,938	2,970	4,738	8,070	12,018	16,107	20,790
Engineering Cost	1,783	1,254	1,227	1,560	1,950	1,950	1,905	1,845	1,800
Total COGS	2,336	2,715	3,165	4,530	6,688	10,020	13,923	17,952	22,590
Total Revenue	2,706	3,302	5,272	8,464	13,529	20,933	31,363	43,267	54,975
COGS	2,336	2,715	3,165	4,530	6,688	10,020	13,923	17,952	22,590
Gross Profit	370	587	2,107	3,934	6,841	10,913	17,441	25,315	32,385
R&D	4,304	2,677	2,779	2,680	2,680	2,680	2,680	3,183	4,012
Sales and Marketing	5,926	4,291	5,821	5,864	6,103	6,350	6,809	8,690	11,034
General and Admin	4,381	3,913	6,171	4,800	4,800	4,800	4,800	4,800	5,171
Other	-	-	(1,477)	(1,480)	(1,480)	(1,480)	(1,480)	(1,480)	(1,480)
Operating Expenses	14,611	10,881	13,294	11,864	12,103	12,350	12,809	15,193	18,738
Operating Income	(14,241)	(10,294)	(11,187)	(7,931)	(5,262)	(1,437)	4,631	10,122	13,647
Interest	(725)	(1,722)	(426)	-	-	-	-	-	-
other	(92)	(58)	(12)	-	-	-	-	-	-
Pre-tax Income	(15,058)	(12,074)	(11,625)	(7,931)	(5,262)	(1,437)	4,631	10,122	13,647
Taxes	-	0	0	0	0	0	232	506	682
Net Income	(15,041)	(11,888)	(11,625)	(7,931)	(5,262)	(1,437)	4,400	9,616	12,965
EPS - basic	(\$0.00)	(\$0.59)	(\$0.15)	(\$0.10)	(\$0.07)	(\$0.02)	\$0.06	\$0.12	\$0.17
Shares-basic	5,000	20,637	75,268	78,500	78,500	78,500	78,500	78,500	78,500
EPS - diluted	(\$0.03)	(\$0.59)	(\$0.10)	(\$0.06)	(\$0.04)	(\$0.01)	\$0.03	\$0.07	\$0.10
Shares-diluted	500,000	20,637	113,518	129,500	129,500	129,500	129,500	129,500	129,500
EPS - GAAP	N/A	(\$0.58)	(\$1.20)	(\$0.12)	(\$0.09)	(\$0.04)	\$0.04	\$0.11	\$0.15
Margin Analysis									
Product Margin	2.3%	9.4%	40.1%	51.0%	55.0%	55.0%	57.6%	60.0%	60.0%
Engineering Margin	16.7%	25.8%	39.7%	35.0%	35.0%	35.0%	36.5%	38.5%	40.0%
Total Gross Margin	13.7%	17.8%	40.0%	46.5%	50.6%	52.1%	55.6%	58.5%	58.9%
R&D	159.1%	81.1%	52.7%	31.7%	19.8%	12.8%	8.5%	7.4%	7.3%
R&D plus Engr COGS	224.9%	119.0%	76.0%	50.1%	34.2%	22.1%	14.6%	11.6%	10.6%
Sales and Marketing	219.0%	130.0%	110.4%	69.3%	45.1%	30.3%	21.7%	20.1%	20.1%
General and Admin	161.9%	118.5%	117.1%	56.7%	35.5%	22.9%	15.3%	11.1%	9.4%
Operating Income	N/A	N/A	N/A	N/A	N/A	N/A	14.8%	23.4%	24.8%
Pre-tax Income	N/A	N/A	N/A	N/A	N/A	N/A	14.8%	23.4%	24.8%
Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%
Net Income	N/A	N/A	N/A	N/A	N/A	N/A	14.0%	22.2%	23.6%
Year-to-year growth									
Revenue		22.0%	59.7%	60.5%	59.8%	54.7%	49.8%	38.0%	27.1%
Operating Expenses		(25.5%)	22.2%	(10.8%)	2.0%	2.0%	3.7%	18.6%	23.3%
Operating Income		(27.7%)	8.7%	(29.1%)	(33.7%)	(72.7%)	N/A	119%	34.8%
Pre-tax Income		(21.0%)	(2.2%)	(31.8%)	(33.7%)	(72.7%)	N/A	119%	34.8%
Net Income		(21.0%)	(2.2%)	(31.8%)	(33.7%)	(72.7%)	N/A	119%	34.8%
EPS		1815%	(82.2%)	(40.0%)	(33.7%)	(72.7%)	N/A	119%	34.8%

Source: Ekso Bionics accounts (actual), Edison Investment Research (forecasts)

Exhibit 10: Financial summary

	\$000	2012	2013	2014e	2015e	2016e	2017e	2018e
Year end 31 December		US GAAP	US GAAP	US GAAP	US GAAP	US GAAP	US GAAP	US GAAP
PROFIT & LOSS								
Revenue		2,706	3,302	5,272	8,464	13,529	20,933	31,363
Cost of Sales		(2,336)	(2,715)	(3,165)	(4,530)	(6,688)	(10,020)	(13,923)
Gross Profit		370	587	2,107	3,934	6,841	10,913	17,441
EBITDA		(14,241)	(10,294)	(10,550)	(7,291)	(4,622)	(797)	5,271
Operating Profit (before amort. and non-opn.)		(14,241)	(10,294)	(11,187)	(7,931)	(5,262)	(1,437)	4,631
Intangible Amortization		0	0	0	0	0	0	0
Non-operating costs		0	0	0	0	0	0	0
other		0	0	(1,477)	(1,480)	(1,480)	(1,480)	(1,480)
Operating Profit		(14,241)	(10,294)	(12,664)	(9,411)	(6,742)	(2,917)	3,151
other			128	(77,449)	0	0	0	0
Net Interest		(725)	(1,722)	(426)	0	0	0	0
Profit Before Tax (non-GAAP)		(15,058)	(12,074)	(11,625)	(7,931)	(5,262)	(1,437)	4,631
Profit Before Tax (GAAP)		(15,041)	(11,888)	(90,539)	(9,411)	(6,742)	(2,917)	3,151
Tax		0	0	0	0	0	0	(158)
Profit After Tax (non-GAAP)		(15,058)	(12,074)	(11,625)	(7,931)	(5,262)	(1,437)	4,474
Profit After Tax (GAAP)		(15,041)	(11,888)	(90,539)	(9,411)	(6,742)	(2,917)	2,994
Average Number of Shares Outstanding (m)		5	20.6	75.3	78.5	78.5	78.5	78.5
EPS - basic, non-GAAP (\$)		N/A	(0.59)	(0.15)	(0.10)	(0.07)	(0.02)	0.06
EPS - diluted, non-GAAP (\$)		N/A	(0.59)	(0.10)	(0.06)	(0.04)	(0.01)	0.03
EPS - GAAP (\$)		N/A	(0.58)	(1.20)	(0.12)	(0.09)	(0.04)	0.04
Dividend per share (\$)		N/A	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)		13.7	17.8	40.0	46.5	50.6	52.1	55.6
EBITDA Margin (%)		N/A	N/A	N/A	N/A	N/A	N/A	16.8
Operating Margin (before amort. and non-opn.) (%)		N/A	N/A	N/A	N/A	N/A	N/A	14.8
BALANCE SHEET								
Fixed Assets		2,422	4,400	6,262	8,934	12,993	19,773	27,709
Intangible Assets		0	0	0	0	0	0	0
Plant, property and equipment		1,665	1,575	1,764	1,764	1,764	1,764	1,764
Other long term assets		757	2,825	4,498	7,170	11,229	18,009	25,945
Current Assets		3,786	2,183	11,044	6,761	6,967	14,750	30,944
Inventory		615	725	1,080	1,860	2,875	4,950	6,500
Accounts receivable		887	653	887	1,440	2,167	3,550	4,583
Cash		1,739	805	9,077	3,461	1,925	6,250	19,861
Other		545	0	0	0	0	0	0
Current Liabilities		(9,488)	(6,127)	(9,621)	(15,940)	(25,466)	(41,467)	(59,793)
Other short term liabilities		(7,832)	(6,127)	(9,621)	(15,940)	(25,466)	(41,467)	(59,793)
Short term debt		(1,656)	0	0	0	0	0	0
Long Term Liabilities		(5,133)	(9,506)	(89,885)	(89,885)	(89,885)	(89,885)	(89,885)
Long term debt		(2,510)	0	0	0	0	0	0
Other long term liabilities		(2,623)	(9,506)	(89,885)	(89,885)	(89,885)	(89,885)	(89,885)
Net Assets		(8,413)	(9,050)	(82,199)	(90,130)	(95,392)	(96,829)	(91,025)
CASH FLOW								
Operating Cash Flow		(12,702)	(9,064)	(10,157)	(4,976)	(896)	4,965	14,250
Net Interest		39	0	(426)	0	0	0	0
Tax		0	0	0	0	0	0	0
Capex		(865)	(379)	(728)	(640)	(640)	(640)	(640)
Acquisitions/divestitures		0	0	0	0	0	0	0
Financing		14,709	8,509	22,115	0	0	0	0
Dividends		0	0	0	0	0	0	0
Net Cash Flow		1,181	(934)	10,804	(5,616)	(1,536)	4,325	13,610
Opening net debt/(cash)		3,608	(1,739)	(805)	(9,077)	(3,461)	(1,925)	(6,250)
Capitalized leases		0	0	0	0	0	0	0
Other		0	0	(2,532)	0	0	0	0
Closing net debt/(cash)		(1,739)	(805)	(9,077)	(3,461)	(1,925)	(6,250)	(19,861)

Source: Ekso Bionics accounts, Edison Investment Research

Contact details		Revenue by geography (2013)	
1414 Harbour Way South Suite 1201 Richmond, California 94804 US +1 510 984 1761 www.eksobionics.com			
CAGR metrics	Profitability metrics	Balance sheet metrics	Sensitivities evaluation
EPS 12-16e	N/A ROCE 15e	N/A ROCE 15e	N/A Litigation/regulatory ●
EPS 14e-16e	N/A Avg ROCE 12-16e	N/A Avg ROCE 12-16e	N/A Pensions ○
EBITDA 12-16	N/A ROE 15e	N/A ROE 15e	N/A Currency ○
EBITDA 14e-16e	N/A Gross margin 15e	100% Gross margin 15e	46.5% Stock overhang ●
Sales 12-16	49.5% Operating margin 15e	N/A Operating margin 15e	N/A Interest rates ○
Sales 14e-16e	60.2% Gr mgn / Op mgn 15e	N/A Gr mgn / Op mgn 15e	N/A Oil/commodity prices ○
Management team		CTO and President of Ekso Labs: Russ Angold	
CEO: Nathan Harding Co-founder of the company and co-inventor of the exoskeleton technology with 10 patents and eight pending. Professional experience with the Berkeley Robotics and Human Engineering Lab, Carnegie Mellon's Field Robotics Center, and Redzone Robotics. BSME and economics from Carnegie Mellon and MSME from UC Berkeley.		Co-founder of the company with professional experience at Rain Bird, Berkeley Process Control, and the Irrigation Training and Research Center in San Luis Obispo, CA. BS in bioresource and agricultural engineering from California Polytechnic State University, San Luis Obispo.	
CFO: Max Scheder-Bieschin Joined the company in January 2011 after consulting for it. Co-founder and CEO of Barefoot Motors making ATVs, president of ZAP distributing electric vehicles, and investment banking roles in Germany for BHF-Bank, ING Baring and Deutsche Bank. BA in economics from Stanford University and graduate work at NYU and Stanford.		COO: Frank Moreman Joined the company in July 2011 with manufacturing experience at Sanmina-SCI's Semiconductor and Industrial Division and Ultra Clean Technology after it acquired his Sieger Engineering. BSME from the US Naval Academy.	
Principal shareholders			(%)
CNI Commercial LLC			13.2
Opaley LP			12.1
Homayoon Kazarooni			6.0
Bionic Partners LLC			5.5
Mark Tompkins			4.6
Companies named in this report			
Cyberdyne Inc (7779:TYO), Rex Bionics (RXB:LSE), Parker Hannifin (PH:NYQ), Lockheed Martin (LMT:NYQ), Raytheon (RTN:NYQ), Panasonic (6752:TYO), Honda (7267:TYO)			

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