



March 20, 2015

CURRENT PRICE: \$7.17
RATING: BUY
PRICE TARGET: \$15
CURRENT YIELD: N/A

EPS Estimates - GAAP

	DEC 14A	DEC 15E
1Q	\$0.01	\$0.02
2Q	(\$0.04)	(\$0.07)
3Q	(\$0.11)	\$0.03
4Q	(\$0.07)	\$0.03
	(\$0.21)	\$0.01

Trading Data

52-WEEK PRICE RANGE: **\$18.43-\$6.29**
SHARES OUTSTANDING: **28.3(M)**
MARKET CAP: **\$202.9(M)**
AVG. DAILY TRADING VOLUME: **0.5(M)**
S&P 500: **2,065**

Valuation Data

BOOK VALUE: **\$4.18**
PRICE TO BOOK: **1.72x**
DIVIDEND: **n/a**

MAXWELL TECHNOLOGIES, Inc. (NSDQ: MXWL)

4Q14 Earnings report

Highlights

- 4Q14 earnings of (\$0.07)/share vs. \$0.10/share during 4Q13
- Continuing slowdown in China hybrid bus market hurts earnings
- Improved UC sales in wind, auto, & rail
- Potential use of UCs by auto/truck manufacturers
- Maintain BUY rating & \$15 price target

Investment Thesis

The recent sell-off in this stock has created an attractive entry point for speculative/aggressive investors seeking 50%-100% appreciation potential, or higher, from MXWL's shares during the next 3-18 months. We believe MXWL is a revenue/earnings growth story, based on rising demand for the company's products on both a short-term and long-term basis. Specifically, increased demand for the company's ultracapacitor products could drive earnings growth as auto/truck manufacturers move towards "greener" vehicles, and from increased hybrid bus business in China.

Company Summary

Maxwell Technologies (MXWL), headquartered in San Diego CA, develops, manufactures, and markets advanced energy storage/power delivery products. These products are used in the transportation, renewable energy, industrial, information technology sectors and the company also offers microelectronic products for space/satellite applications. MXWL's produces three primary items; ultracapacitors, high-voltage capacitors, and radiation-hardened microelectronic products. Internal manufacturing is done at facilities in San Diego CA, and Rossens Switzerland, with a new plant opening in Phoenix AZ later this year. Low-cost offshore assembling of MXWL's ultracapacitor products is done by Belton Technology (Hong Kong China) and Lishan Battery Company (Tianjin China). Sales offices are located in San Diego CA, Norfolk UK, Rossens Switzerland, Munich Germany, and Shanghai China.

For Important Disclosure information regarding the Firm's rating system, valuation methods and potential conflicts of interest, please refer to the last two pages of this report.



BUSINESS OVERVIEW

MXWL has three primary products: Ultracapacitors, High-Voltage Capacitors, and Radiation-hardened Microelectronic Products.

Ultracapacitors (UC) are energy storage devices which possess high power density (having the ability to charge/discharge energy at a fast rate) and a long operational life. MXWL's ultracapacitor cells and multi-cell packs/modules supply high energy storage/power delivery solutions for application in many industries. These products are used in the transportation, energy, consumer, industrial electronics, and information technology industries. Ultracapacitors are the "lion's share" of MXWL's business comprising 62% of 2011's sales.

High-Voltage Capacitors (HVC) are devices designed/manufactured to perform reliably in all types of climates for electric utility infrastructures for long periods of time. This product group includes grading/coupling capacitors and capacitive voltage dividers used for safety, and reliability, in electric utility infrastructures. Other applications for this product group are used in the transmission, distribution, and measurement of high-voltage electrical energy.

Radiation-Hardened Microelectronic Products (RMP) include high-performance/high-density power modules, memory modules, and single board computers. These use MXWL's patented/proprietary "RADPAK" packaging/shielding technology and unique architectures enabling MXWL's products to withstand high doses of environmental radiation and provide reliable service while in outer space. RMP are used primarily in orbiting satellites and other space crafts.

GROWTH STRATEGY

MXWL's primary strategy is to grow revenues and profits during the next 5 years primarily through increased market demand for its ultracapacitor-based energy storage and power delivery products. Over the near-term, management believes the windmill and transit bus businesses could lead to higher revenues. Longer-term, the automotive vehicle and uninterruptable power source businesses could add an influx of new revenues towards Maxwell's operations. To this end, management is expanding manufacturing capacity to meet potential increased future product demand expected during the next two years. Revenue growth, combined with controlling expenses, could lead to significant earnings growth during the next 1-5 years for MXWL.

Continental AG, considered a Global Tier 1 automotive supplier, uses MXWL's ultracapacitors in its "stop-start idle-elimination" product. The "stop-start" product is used in the European hybrid automotive market being installed in PSA autos (Peugeot and Citroen). MXWL believes European market share growth is possible in the future, assuming "stop-start" is deployed by other foreign auto manufacturers. The "stop-start" product improves



EQUITY RESEARCH

miles per gallon for autos by turning off the engine when it would otherwise be idling at a traffic stop. This is achieved as the “stop-start” product provides the power needed, from the ultracapacitor, to restart the vehicle. The product has appeal to auto manufacturers seeking to add a “greener” aspect to their automobiles and comply with increasingly stringent fuel/economy/emission standards.

The US auto market is another potential source of growth for MXWL due to the growing demand from customers for “greener” and more fuel-efficient automobiles. Currently no US automakers are using the company’s products. However, MXWL is hopeful this could change if domestic automakers, and US consumer demand, seek “greener” vehicles. US automakers deployment of the “stop/start” product could generate significant revenue growth for MXWL. To this end, MXWL has opened up a marketing office in Detroit MI., home of the “Big Three” US automakers.

The hybrid bus market is another potential large growth market for MXWL going forward. MXWL’s ultracapacitors are used in regenerative braking/power systems in buses. Ultracapacitors capture and store energy from a bus’s braking-action, which can then be reused to propel the vehicle from a standing stop. Thus, a bus using this product would reduce fuel consumption and corresponding exhaust emissions. This type of system has appeal to overseas bus manufacturers seeking “greener” public transit vehicles and improved urban air quality.

Overseas bus manufacturers, seeking “greener” public transit vehicles and increased fuel efficiency are using MXWL’s ultracapacitor products for metropolitan buses with hybrid-electric drive systems. MXWL has supply agreements with Voith Turbo (leading European/North America drive system integrator), Yutong (China’s largest bus producer), and others. Potentially, other bus manufacturers may gravitate towards the use of MXWL ultracapacitors in its vehicles.

MXWL’s ultracapacitors are presently being used in only 5,000 buses around the world, including pilot-projects in 3 US municipal areas. Over the near term the potential exists for new orders from China and Europe, and longer term there could be an increase in demand from US municipalities.

The heavy truck area is a new potential source of revenue growth. MXWL recently introduced the “Engine Start Module”, an engine start module for 18-wheel trucks. This product, with a 10-year design life, provides energy to start trucks, provide “stop-start idle-elimination” features, and allows the cab to run “hotel” loads off of the capacitor, while eliminating battery drain. This offers the potential to increase fuel efficiency, lower emissions, and extend a truck’s regular battery life. Industry studies estimate the North American battery replacement market for Class 4 – 8 trucks could be approximately \$1 billion, equating to a potential large source of new business for MXWL. Presently, only 1,000 of these units are being used in the North American market. However, a wider acceptance of this product by the trucking industry could be another contributor to MXWL’s revenue growth during the next 2-4 years.

Alternative energy is another growth area for MXWL. Owners of electrical generating windmills have been using the company’s ultracapacitor products. These ultracapacitors are used to rotate the windmill blades in order to protect them from problematic weather conditions. This product replaces batteries (used to change the pitch of



turbine blades), which need to be replaced periodically by servicemen. Currently, MXWL's products are in approximately 20,000 windmills, primarily in China. market sector

HVC are used primarily by the electric utility sector. Grading and coupling capacitors are vital circuit breaker components used to prevent high-voltage arcing which can damage switches, step-down transformers and other equipment involved in the transmission/distribution of high-voltage electricity circulated through utility infrastructures and high-voltage laboratories. Capacitive voltage dividers measure power/voltage levels in overhead transmission lines.

The market for these products consists of the building, expansion, upgrading, and maintenance of existing/new infrastructure systems/installations in developing countries. Recently government spending has slowed in this area due to the recent world economic slowdown. However, improvement in the world economy, or credit markets, could cause an increase in electrical infrastructure spending & provide growth opportunities for MXWL.

RMP are used mainly in the space/satellite industries. Due to high manufacturing costs of satellites/spacecrafts, long-lead times needed to develop products for this area, and relatively limited number of space programs, this is a comparatively small market for MXWL.

Recent Earnings

MXWL reported a loss of (\$0.07)/share during 4Q14 vs. a loss of (\$0.10)/share during 4Q13. The loss was due to an increase in total operating expenses (\$18.2 million vs. \$16.9 million) which more than offset a rise in revenues (\$52.9 million vs. \$39.0 million). The revenue increase came from increasing Chinese bus market demand and higher demand for MXWL's products in other market segments. Higher operating expense resulted from higher product development costs and emphasis of sales into the automotive/trucking/wind/rail segments. Gross margins, on a quarter-to-quarter comparison, declined to 35%, from 37% due to a less favorable mix and lower manufacturing utilization.

For FY14 MXWL reported a loss of (\$0.21)/share vs. net income of \$0.22/share for FY13. Revenues declined to \$186.6 million from \$193.5 million while operating expenses rose to \$70.2 million from \$66.7 million. Gross profit margin declined to 36.7% vs. 38.9% in 2013 due to an unfavorable revenue mix and lower capacity utilization. MXWL's fastest growing segments in 2014 were automotive, with revenues rising 18% to \$17.5 million, and wind turbine, growing 53.4% to \$34 million.



4Q14 EARNINGS CONFERENCE CALL NOTES AND VISIT WITH MANAGEMENT:

The largest issue for investors was the continued slowdown in the growth of the Chinese hybrid bus market. In prior years, Chinese government subsidies had emphasized the hybrid bus market, which drove strong revenue growth for MXWL. However, last year the new government regime shifted emphasis to the electric bus market and less to the hybrid bus market. Recognizing this change, MXWL's management decided to shift its growth emphasis to be less dependent on the Chinese hybrid bus market and more towards its automotive, trucking, windmill, and rail segments. These segments also use ultracapacitors (UCs) and management believes they could be the growth drivers for MXWL's earnings and revenues during the next two years.

In the automotive market, management is hopeful one or more US, or European, auto manufacturers will employ MXWL's UCs in its vehicles. Presently, Peugeot SA is the only auto manufacturer using the UCs in its autos. MXWL management stated other US and European car manufacturers are currently testing UCs in their vehicles, and if tests are positive, then an announcement, employing MXWL's products for the 2016 or 2017 model year, could be made either later 2015 or next year.

A similar situation is occurring in the truck sector as one of the major truck manufacturers is testing UCs with its fleet customers for more reliable engine starting. 32 states have enacted legislation which will not allow trucks to idle while making delivery stops (i.e, UPS/FedEx vehicles), or in the case of 18-wheelers, run engines to provide energy/warmth to truck cabs during overnight periods. These regs could cause truck manufacturers to deploy MXWL's UCs for engine starting. The company expects an announcement, in this area, this year.

UC-based braking energy recuperation systems have been deployed on metropolitan rail systems in Philadelphia PA, Seoul Korea, and Spain. MXWL noted other rail systems switching to UC-based systems could be another source of revenue growth. The wind turbine business offers continued revenue growth potential for the company. During 2014 wind revenues increased 53.4% to \$34 million and could continue improving given electric providers continued migration towards wind generated electricity.

Going forward, MXWL said its operating plans are to lower costs and spend conservatively until additional revenue streams materialize during 2015. Revenue guidance for the upcoming year is \$160 million-\$180 million with gross profit margins of 30%-34% during 1H15 and rising to 35%-37% during 2H15.

Recent insider stock buying has consisted of director, Burkhard Goeschel, purchasing 20,000 shares of common stock and CEO Franz Fink bought 20,000 shares of common stock.

On 3/17/15 Kevin Royal, and MXWL, announced they "have agreed" that Royal will leave his position as CFO. A search has begun for his replacement and Royal will remain until a successor is found and transitions into the position.



Our Thoughts

We continue to rate MXWL a BUY with a price target of \$15/share. This stock is volatile and recommended for aggressive and speculative investors seeking above average appreciation potential. MXWL's stock has traded in a wide range during the past year. It reached a high in mid-2014 of \$18.43/share, on expectations of rising revenue streams from the Chinese hybrid-bus market before hitting a recent low of \$6.29/share, when growing revenues failed to materialize from this area. Potentially, this stock may continue to "tread water" until investors hear positive breaking news from MXWL regarding new revenue streams.

Going forward, there are two catalysts which could cause MXWL's stock to rally towards our \$15 price target: 1) Truck manufacturers announce use of MXWL's UCs in their truck fleets - estimated \$1 billion market. 2) One of the "Big Three" US, or another European, auto maker announces the use of MXWL's UCs in their cars. Under such a scenario, investors could crowd into this lightly traded stock causing upward momentum in MXWL's shares. This stock is recommended for aggressive/speculative trading accounts. Our price target is \$15, which equates to 14.9x our Enterprise Value/Revenue multiple based on our 2015 revenue estimate.

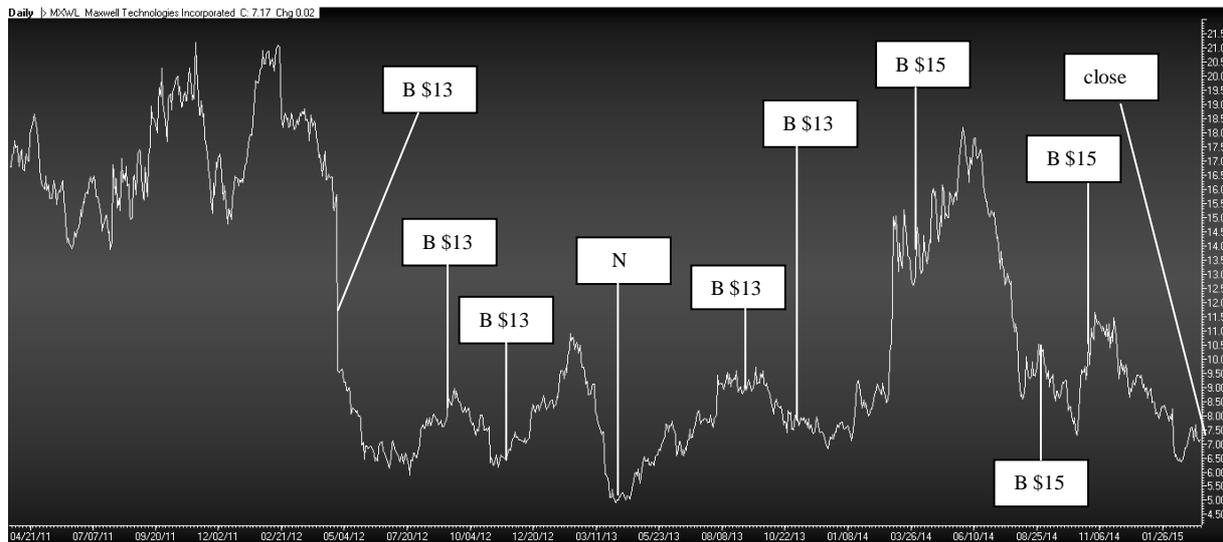


Risks

There are no guarantees MXWL will be able to grow future earnings. Declining customer orders, increasing commodity prices, and rising operating costs could negatively affect the company's profits. Economic slowdowns, or political change, in Europe and Asia could have adverse effects on earnings. Given the majority of its revenues come from overseas, fluctuations in currency values could impact MXWL's profitability. New products from competitors, or changing industry trends, are risks for MXWL's ability to sell its products. Negative equity markets, rising interest rates, terrorist attacks, and failure to comply with the Sarbanes Oxley Act could cause a decline in MXWL's share price. Given the relatively small amount of daily trading activity in MXWL's stock, any increase in trading volume could significantly accelerate the volatility of its share price movement.

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Important Disclosures



5/1/12 \$9.58 initiate BUY & \$13 price target
 4/2/13 \$4.98 lower to HOLD
 9/9/13 \$9.12 raise to BUY & \$13 price target
 4/8/14 Raise price target to \$15
 Ratings-
 BUY: B
 HOLD: H
 SELL: S

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Our price target is \$15/share, equating to 14.9x our Enterprise Value/Revenue multiple based on our 2014 revenue estimate

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- (2) Hold – The stock's total return including dividends is expected to be in line with the industry or market average of +/- 10% over the next twelve months.
- (3) Sell – The Stock's total return including dividends is expected to be below the industry or market average by 10% or more over the next twelve months.

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