



November 16, 2014

## Agile Therapeutics

### Twirla Phase III on track – remains an attractive small cap idea

**Our view:** Per the 3Q update and our follow-up discussion with management, we believe progress on Twirla's Phase III study is on track. Importantly, patient recruitment efforts are expected to complete in 1Q2015 while spending came in below expectations with cash on hand expected to fund operations through Phase III data. Overall, we continue to see an attractive upside case in AGRX shares.

#### Key points:

**Twirla Phase III study is on schedule with enrollment expected to complete in 1Q2015; the study remains on track.** AGRX has activated around 50 of 70 sites with PAREXEL and continues to be diligent with recruitment. Enrollment timing of 4–6 months, which began in September, is unchanged, with the trial expected to last ~12 months. We expect data in 1Q2016 and could see a Twirla approval in 2H2016. Recall that subpar patient recruitment and loss of data were contributing factors to the prior Phase III trial that led to the CRL. The company continues to focus on patient screening and data collection methods with the deployment of E-diaries. These sites have prior experience with E-diaries, which should add to confidence regarding data collection. We continue to believe that precautions taken with the study setup and that patient screening will lead to an acceptable efficacy result in line with other approved contraceptives.

**3Q spend came in lighter than expected, with AGRX ending the quarter with ~\$45.7 million in cash; we still see cash funding through data read in early 2016.** We expect R&D costs to increase in 4Q sequentially over 3Q and remain elevated through the patient recruitment phase into 1Q2015, which will tail off as initial patients complete the study. Management expects cash on hand to fund operations through 1Q2016; beyond that, we could see additional capital needs should AGRX pursue commercial infrastructure build.

**AGRX remains a compelling opportunity for patient investors with small cap appetite; we still think a post data read take-out is a realistic possibility.** Our \$340 million peak sales estimate for lead product candidate Twirla reflects a 3% TRx penetration and a relatively modest pricing assumption; both are arguably conservative, creating what we think is a very favorable upside scenario. For each 100 basis points in TRx penetration, we see roughly \$114 million in additional peak sales and that translates into close to \$3 in NPV per share. Additionally, we still think AGRX could be a logical takeout target post positive Phase III data, possibly creating an attractive exit for investors should management choose not to commercialize it itself.

RBC Capital Markets, LLC  
**Randall Stanicky, CFA**  
 (Analyst)  
 212 618 3266  
 randall.stanicky@rbc.com

**James C Chen, CFA**  
 (Associate)  
 (212) 428-6970  
 james.c.chen@rbccm.com

### Outperform Speculative Risk

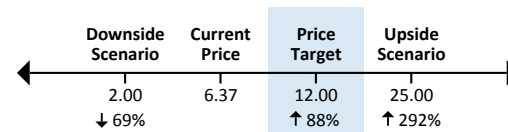
NASDAQ: AGRX; USD 6.37

Price Target USD 12.00

#### WHAT'S INSIDE

<input type="checkbox"/> Rating/Risk Change	<input type="checkbox"/> Price Target Change
<input type="checkbox"/> In-Depth Report	<input checked="" type="checkbox"/> Est. Change
<input type="checkbox"/> Preview	<input type="checkbox"/> News Analysis

#### Scenario Analysis\*



\*Implied Total Returns

#### Key Statistics

Shares O/S (MM):	20.0	Market Cap (MM):	127
Dividend:	0.00	Yield:	0.0%
		Avg. Daily Volume:	19,626

#### RBC Estimates

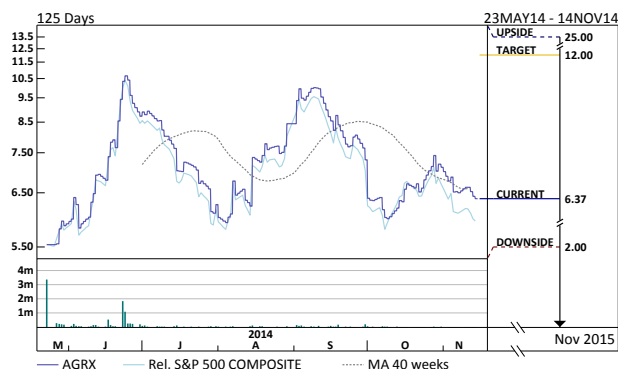
FY Dec	2013A	2014E	2015E	2016E
<b>EBITDA, Adj</b>		(22.1)	(23.4)	(27.0)
Prev.		(26.8)	(18.4)	(25.0)
<b>EPS, Adj Diluted</b>		(1.11)	(1.23)	(1.39)
Prev.		(1.32)	(0.87)	(1.14)
<b>Revenue</b>	0.0	0.0	0.0	14.8
<b>P/AEPS</b>	NM	NM	NM	NM
<b>EBITDA, Adj</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
2014	(2.4)A	(3.5)A	(6.0)A	(10.2)E
Prev.			(10.8)E	(10.0)E
2015	(10.3)E	(5.0)E	(4.0)E	(4.1)E
Prev.	(6.3)E	(4.3)E	(4.3)E	(3.3)E
<b>EPS, Adj Diluted</b>				
2014	0.01A	(0.28)A	(0.32)A	(0.52)E
Prev.			(0.55)E	(0.50)E
2015	(0.53)E	(0.27)E	(0.22)E	(0.22)E
Prev.	(0.32)E	(0.22)E		(0.13)E

All values in USD unless otherwise noted.



## Target/Upside/Downside Scenarios

Exhibit 1: Agile Therapeutics



Source: Bloomberg and RBC Capital Markets estimates for Upside/Downside/Target

### Target price/base case

Our base case scenario sees a \$12 share price on the following assumptions:

- Progress toward successful Phase III results and expected commercial launch by Agile in US H2/16.
- Peak US sales potential of \$340 million for Twirla reflecting 3% share of the CHC market on 4% annual pricing increases.
- Risk adjustment of 70% in our DCF while our Twirla NPV assumes a 23% discount rate on un-risk adjusted sales.
- No revenue contribution from the remainder of the pipeline and only modest benefit from existing NOLs.

### Upside scenario

Our upside case scenario sees a \$25 share price on the following assumptions:

- Progress toward successful Phase III results and expected commercial launch by Agile in US H2/16.
- Peak US sales of \$617 million for Twirla reflecting 5% share of the CHC market and 5% annual pricing increases.
- Risk adjustment of 70% in our DCF while our Twirla NPV assumes a 23% discount rate on un-risk adjusted sales as the Phase III data read is expected in late 2015 (> 12 months).
- No revenue contribution from the remainder of the pipeline and only modest benefit from existing NOLs.

### Downside scenario

Our downside case scenario sees a \$2 share price on an early unexpected halt to the Phase III study. In this scenario we assume modest value for platform technology, cash on hand, and existing NOLs.

## Investment summary

Agile's lead product Twirla is a low-dose once-weekly contraceptive patch that we believe fills an established unmet need in the market. Twirla offers both convenience and compliance benefits that we think would appeal to a core patient base once approved. Our thesis rests on four main points:

- 1) We believe Twirla can capture 3% TRx share in the sizable \$4.2 billion CHC market that is growing annually in the mid-single digits given the unique benefits that a CHC patch product without a black box safety warning could bring.
- 2) We see a clear path to market for Twirla and expect positive Phase III data in 1Q2016, followed by approval in H2/16.
- 3) There could be additional value from the existing pipeline and platform technology that we have not ascribed value to.
- 4) We see Agile as a logical takeout candidate by an established player in contraceptives with significant marketing resources and an established specialty sales force.

**Potential catalysts to focus on:** 1) Phase III data readout in 1Q2016; 2) NDA approval in 2H2016; and 3) potential acquisition that could be possible post positive Phase III data.

**Risks to our thesis:** 1) new phase III data for Twirla is insufficient for an NDA filing; 2) additional regulatory or execution delays to launch; 3) potential for greater than expected financing needs; and 4) lack of commercial uptake or adoption below expectations.



## Exhibit 2: AGRX P&amp;L 2012 to 2017E

Agile - Income Statement (\$ in millions)	FY2012 Actual	FY2013 Actual	Mar-14	Jun-14	Sep-14	Dec-14E	FY2014 Est.	Mar-15E	Jun-15E	Sep-15E	Dec-15E	FY2015 Est.	FY2016 Est.	FY2017 Est.	Comments
<b>Revenue</b>															
Twirla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	68.0	Assume a 2H2016 launch - no generics through '22E
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pipeline potential for lifecycle and upside
<b>Total revenue</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	68.0	Each 100 bps Twirla share ~\$100M in revenue
Cost of goods sold	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.6	
<b>Total gross profit</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	62.4	GM 90-92% - no royalty commitments
Research and development (R&D)	17.4	9.2	1.4	2.4	4.6	8.7	17.1	8.8	3.5	2.5	2.5	17.3	8.0	3.9	
General and administrative (G&A)	5.9	3.6	1.1	1.1	1.4	1.5	5.1	1.5	1.5	1.5	1.5	6.0	6.1	6.3	Should be relatively stable
Sales and marketing (S&M)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	26.5	37.8	Based on 90 reps, promo, social media, ad spend
<b>Operating income (adjusted)</b>	(23.3)	(12.7)	(2.4)	(3.5)	(6.0)	(10.2)	(22.2)	(10.3)	(5.0)	(4.0)	(4.1)	(23.4)	(27.1)	14.4	
Interest expense & other	(0.7)	(1.5)	(0.4)	(0.4)	(0.4)	(0.4)	(1.6)	(0.4)	(0.4)	(0.4)	(0.4)	(1.6)	(1.6)	0.0	
Interest income and other income (expense)	0.2	(0.1)	0.0	0.2	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total interest & other	(0.5)	(1.6)	(0.4)	(0.2)	(0.3)	(0.3)	(1.2)	(0.3)	(0.4)	(0.4)	(0.4)	(1.5)	(1.6)	0.0	
<b>Earnings before income taxes (adj)</b>	(23.9)	(14.3)	(2.8)	(3.7)	(6.4)	(10.5)	(23.4)	(10.6)	(5.4)	(4.4)	(4.5)	(24.9)	(28.6)	14.4	
Income tax (adjusted)	0.0	0.0	(3.7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Net earnings to Agile</b>	(23.9)	(14.3)	0.8	(3.7)	(6.4)	(10.5)	(23.4)	(10.6)	(5.4)	(4.4)	(4.5)	(24.9)	(28.6)	14.4	
<b>EPS (pro-forma), diluted</b>	(\$603.8)	(\$289.4)	\$0.01	(\$0.28)	(\$0.32)	(\$0.52)	(\$1.11)	(\$0.53)	(\$0.27)	(\$0.22)	(\$0.22)	(\$1.23)	(\$1.39)	\$0.69	
Diluted shares outstanding	0.0	0.0	9.7	13.2	20.1	20.1	15.8	20.2	20.3	20.4	20.5	20.3	20.6	20.9	
EBITDA	(23.3)	(12.7)	(2.4)	(3.5)	(6.0)	(10.2)	(22.1)	(10.3)	(5.0)	(4.0)	(4.1)	(23.4)	(27.0)	14.4	
EBITDA margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	21.2%	
<b>Growth analysis Y-O-Y</b>	<b>FY2012</b>	<b>FY2013</b>	<b>Mar-14</b>	<b>Jun-14</b>	<b>Sep-14</b>	<b>Dec-14E</b>	<b>FY2014</b>	<b>Mar-15E</b>	<b>Jun-15E</b>	<b>Sep-15E</b>	<b>Dec-15E</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>	
Revenue	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	361%	We assume 2H16 launch with peak year 2021
COGS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	400%	
Gross profit	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	358%	
Research and development (R&D)	NM	NM	NM	NM	NM	NM	87%	531%	46%	-46%	-71%	1%	-54%	-51%	
General and administrative (G&A)	NM	NM	NM	NM	NM	NM	42%	40%	35%	3%	3%	18%	3%	2%	
Sales and marketing (S&M)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	26430%	43%	
Operating income (adjusted)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	-153%	
Net earning (adjusted)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	-150%	
EPS (adjusted)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
<b>Margin analysis</b>	<b>FY2012</b>	<b>FY2013</b>	<b>Mar-14</b>	<b>Jun-14</b>	<b>Sep-14</b>	<b>Dec-14E</b>	<b>FY2014</b>	<b>Mar-15E</b>	<b>Jun-15E</b>	<b>Sep-15E</b>	<b>Dec-15E</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>	
Gross margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	92%	92%	
R&D	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	54%	6%	R&D growth could be higher - depends on pipeline
SG&A	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	42%	9%	
Sales and marketing (S&M)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	180%	56%	
Operating income (adjusted)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	-183%	21%	
Interest expense	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	-11%	0%	
Interest income and other income (expense)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0%	0%	
Tax rate	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0%	0%	NOLs could reduce tax burden
Net earnings (adjusted)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	-194%	21%	

Source: Company data, RBC Capital Markets Research



## Valuation

Our \$12 price target is based equally on our DCF and NPV valuation. Given that the primary value of Agile comes from its lead product candidate Twirla, we think that taking a blended approach is warranted.

Our DCF valuation of \$12 per share reflects our risk adjusted forecasts in the US for Twirla. Our Twirla NPV has expected sales and marketing expenses for commercialization, R&D spending to support expected pipeline studies, and the full organizational cost structure applied against it.

Our NPV reflects full US sales for Twirla in the US. Our \$12 value is based on a 14% WACC and an explicit forecast through 2022 beyond which we assume a terminal growth rate of -30% assuming generic threats in that time period.

## Price target impediments

Price target impediments include but are not limited to: 1) new Phase III study results may still show unacceptable efficacy with high Pearl Index levels; 2) other potential deficiencies that may block an NDA submission; 3) low market acceptance and product uptake at commercialization; 4) potential need for additional financing; and 5) competitive risks from other branded or generic contraceptives.

## Company description

Agile Therapeutics (AGRX) is development-stage women's health specialty pharmaceutical company focused on branded contraceptive patches. The company is based in Princeton, New Jersey, and, as of May 20, 2014, employed 11 full-time employees. Agile's lead product candidate, Twirla™ (AG200-15), is a once-weekly prescription contraceptive patch currently in Phase 3 clinical development. Twirla is a combination hormonal contraceptive patch that contains ethinyl estradiol (EE), a synthetic estrogen, and levonorgestrel (LNG), a progestin, which have established records of efficacy and safety in existing contraceptives. Twirla is designed to consistently deliver the hormones over a seven-day period at levels comparable to currently available oral contraceptives. Agile expects Phase III data by 1Q 2016, and approval in H2/16. Additional pipeline products include: 1) AG200-ER, an extended cycle regimen patch; 2) AG200-SP, a 28-day regimen that includes a shortened hormone-free interval; and 3) a progestin-only candidate, AG890, for women unable or unwilling to take estrogen.



## Required disclosures

### Conflicts disclosures

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of the member companies of RBC Capital Markets and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets and its affiliates.

Please note that current conflicts disclosures may differ from those as of the publication date on, and as set forth in, this report. To access current conflicts disclosures, clients should refer to <https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?entityId=1> or send a request to RBC CM Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7.

A member company of RBC Capital Markets or one of its affiliates managed or co-managed a public offering of securities for Agile Therapeutics in the past 12 months.

A member company of RBC Capital Markets or one of its affiliates received compensation for investment banking services from Agile Therapeutics in the past 12 months.

RBC Capital Markets, LLC makes a market in the securities of Agile Therapeutics.

Royal Bank of Canada, together with its affiliates, beneficially owns 1 percent or more of a class of common equity securities of Agile Therapeutics.

RBC Capital Markets has provided Agile Therapeutics with investment banking services in the past 12 months.

### Explanation of RBC Capital Markets Equity rating system

An analyst's 'sector' is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average. Although RBC Capital Markets' ratings of Top Pick (TP)/Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis.

#### Ratings

**Top Pick (TP):** Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio.

**Outperform (O):** Expected to materially outperform sector average over 12 months.

**Sector Perform (SP):** Returns expected to be in line with sector average over 12 months.

**Underperform (U):** Returns expected to be materially below sector average over 12 months.

#### Risk Rating

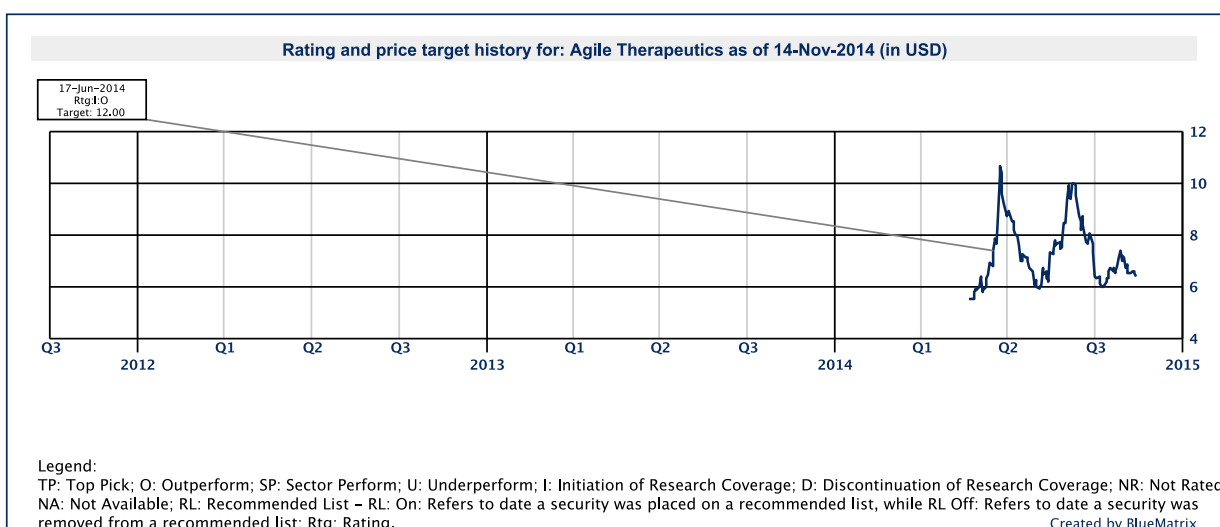
As of March 31, 2013, RBC Capital Markets suspends its Average and Above Average risk ratings. The **Speculative** risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.



## Distribution of ratings

For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories - Buy, Hold/Neutral, or Sell - regardless of a firm's own rating categories. Although RBC Capital Markets' ratings of Top Pick(TP)/Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis (as described below).

Distribution of ratings				
RBC Capital Markets, Equity Research				
As of 30-Sep-2014				
Rating	Count	Percent	Investment Banking Serv./Past 12 Mos.	
			Count	Percent
BUY [Top Pick & Outperform]	858	52.35	308	35.90
HOLD [Sector Perform]	683	41.67	151	22.11
SELL [Underperform]	98	5.98	8	8.16



References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include a former list called the Prime Opportunity List (RL 3), the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Large Cap (RL 7), the Guided Portfolio: Dividend Growth (RL 8), the Guided Portfolio: Midcap 111 (RL 9), the Guided Portfolio: ADR (RL 10), and the Guided Portfolio: Global Equity (U.S.) (RL 11). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List.

## Equity valuation and risks

For valuation methods used to determine, and risks that may impede achievement of, price targets for covered companies, please see the most recent company-specific research report at <https://www.rbcinsight.com> or send a request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7.

## Conflicts policy

RBC Capital Markets Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on request. To access our current policy, clients should refer to



<https://www.rbccm.com/global/file-414164.pdf>

or send a request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7. We reserve the right to amend or supplement this policy at any time.

## Dissemination of research and short-term trade ideas

RBC Capital Markets endeavours to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. Subject to any applicable regulatory considerations, "eligible clients" may include RBC Capital Markets institutional clients globally, the retail divisions of RBC Dominion Securities Inc. and RBC Capital Markets LLC, and affiliates. RBC Capital Markets' equity research is posted to our proprietary websites to ensure eligible clients receive coverage initiations and changes in rating, targets and opinions in a timely manner. Additional distribution may be done by the sales personnel via email, fax or regular mail. Clients may also receive our research via third party vendors. Please contact your investment advisor or institutional salesperson for more information regarding RBC Capital Markets research. RBC Capital Markets also provides eligible clients with access to SPARC on its proprietary INSIGHT website. SPARC contains market color and commentary, and may also contain Short-Term Trade Ideas regarding the securities of subject companies discussed in this or other research reports. SPARC may be accessed via the following hyperlink: <https://www.rbcinsight.com>. A Short-Term Trade Idea reflects the research analyst's directional view regarding the price of the security of a subject company in the coming days or weeks, based on market and trading events. A Short-Term Trade Idea may differ from the price targets and/or recommendations in our published research reports reflecting the research analyst's views of the longer-term (one year) prospects of the subject company, as a result of the differing time horizons, methodologies and/or other factors. Thus, it is possible that the security of a subject company that is considered a long-term 'Sector Perform' or even an 'Underperform' might be a short-term buying opportunity as a result of temporary selling pressure in the market; conversely, the security of a subject company that is rated a long-term 'Outperform' could be considered susceptible to a short-term downward price correction. Short-Term Trade Ideas are not ratings, nor are they part of any ratings system, and RBC Capital Markets generally does not intend, nor undertakes any obligation, to maintain or update Short-Term Trade Ideas. Short-Term Trade Ideas discussed in SPARC may not be suitable for all investors and have not been tailored to individual investor circumstances and objectives, and investors should make their own independent decisions regarding any Short-Term Trade Ideas discussed therein.

## Analyst certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

## Disclaimer

RBC Capital Markets is the business name used by certain branches and subsidiaries of the Royal Bank of Canada, including RBC Dominion Securities Inc., RBC Capital Markets, LLC, RBC Europe Limited, RBC Capital Markets (Hong Kong) Limited, Royal Bank of Canada, Hong Kong Branch and Royal Bank of Canada, Sydney Branch. The information contained in this report has been compiled by RBC Capital Markets from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Capital Markets, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Capital Markets' judgement as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients and has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. This report is not an offer to sell or a solicitation of an offer to buy any securities. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. RBC Capital Markets research analyst compensation is based in part on the overall profitability of RBC Capital Markets, which includes profits attributable to investment banking revenues. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. RBC Capital Markets may be restricted from publishing research reports, from time to time, due to regulatory restrictions and/or internal compliance policies. If this is the case, the latest published research reports available to clients may not reflect recent material changes in the applicable industry and/or applicable subject companies. RBC Capital Markets research reports are current only as of the date set forth on the research reports. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. To the full extent permitted by law neither RBC Capital Markets nor





any of its affiliates, nor any other person, accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior consent of RBC Capital Markets.

Additional information is available on request.

**To U.S. Residents:**

This publication has been approved by RBC Capital Markets, LLC (member FINRA, NYSE, SIPC), which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC.

**To Canadian Residents:**

This publication has been approved by RBC Dominion Securities Inc. (member IIROC). Any Canadian recipient of this report that is not a Designated Institution in Ontario, an Accredited Investor in British Columbia or Alberta or a Sophisticated Purchaser in Quebec (or similar permitted purchaser in any other province) and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report should contact and place orders with RBC Dominion Securities Inc., which, without in any way limiting the foregoing, accepts responsibility for this report and its dissemination in Canada.

**To U.K. Residents:**

This publication has been approved by RBC Europe Limited ('RBCEL') which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority ('FCA') and the Prudential Regulation Authority, in connection with its distribution in the United Kingdom. This material is not for general distribution in the United Kingdom to retail clients, as defined under the rules of the FCA. However, targeted distribution may be made to selected retail clients of RBC and its affiliates. RBCEL accepts responsibility for this report and its dissemination in the United Kingdom.

**To Persons Receiving This Advice in Australia:**

This material has been distributed in Australia by Royal Bank of Canada - Sydney Branch (ABN 86 076 940 880, AFSL No. 246521). This material has been prepared for general circulation and does not take into account the objectives, financial situation or needs of any recipient. Accordingly, any recipient should, before acting on this material, consider the appropriateness of this material having regard to their objectives, financial situation and needs. If this material relates to the acquisition or possible acquisition of a particular financial product, a recipient in Australia should obtain any relevant disclosure document prepared in respect of that product and consider that document before making any decision about whether to acquire the product. This research report is not for retail investors as defined in section 761G of the Corporations Act.

**To Hong Kong Residents:**

This publication is distributed in Hong Kong by RBC Capital Markets (Hong Kong) Limited and Royal Bank of Canada, Hong Kong Branch (both entities which are regulated by the Hong Kong Monetary Authority ('HKMA') and the Securities and Futures Commission ('SFC')). Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ('AFSL') (No. 246521). RBC Capital Markets (Hong Kong) Limited is exempt from the requirement to hold an AFSL under the Corporations Act 2001 in respect of the provision of such financial services. RBC Capital Markets (Hong Kong) Limited is regulated by the HKMA and the SFC under the laws of Hong Kong, which differ from Australian laws.

**To Singapore Residents:**

This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity granted offshore bank licence by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.

**To Japanese Residents:**

Unless otherwise exempted by Japanese law, this publication is distributed in Japan by or through RBC Capital Markets (Japan) Ltd., a registered type one financial instruments firm and/or Royal Bank of Canada, Tokyo Branch, a licensed foreign bank.

® Registered trademark of Royal Bank of Canada. RBC Capital Markets is a trademark of Royal Bank of Canada. Used under license.

Copyright © RBC Capital Markets, LLC 2014 - Member SIPC

Copyright © RBC Dominion Securities Inc. 2014 - Member CIPF

Copyright © RBC Europe Limited 2014

Copyright © Royal Bank of Canada 2014

All rights reserved