

Karolinska Development

Positive news flow drives valuation uplift

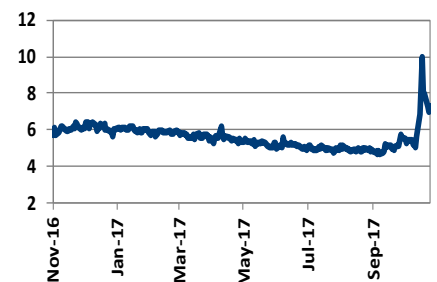
Over the past month Karolinska Development has reported a series of positive outcomes for several of its portfolio companies. The most important in terms of impact on our valuation are the encouraging results from Umechrine Cognition's Phase Ib study and, to a lesser extent, the successful flotation of BioArctic. A number of further value inflection points, across many of the portfolio companies, are expected over the next 12-18 months. Updating our DCF-based model sees our valuation rise from SEK566m (equivalent to SEK8.92 per share) to SEK1,042m (SEK16.44 per share).

Year-end: December	2015	2016	2017E	2018E
Sales (SEKm)	2.9	5.4	5.4	5.5
Adj. PBT (SEKm)	(78.2)	(70.3)	(68.5)	(65.4)
Net Income (SEKm)	(1,054.7)	(216.8)	(77.8)	(65.4)
Adj. EPS (SEK)	(1.5)	(1.3)	(1.1)	(1.0)
Cash (SEKm)	297.2	248.1	175.1	143.9
EBITDA (SEKm)	(43.6)	(27.0)	(29.9)	(31.6)

Source: Trinity Delta Note: Adjusted numbers exclude changes in the fair value of portfolio companies and exceptionals.

- The transformation is bearing fruit** Karolinska Development has undergone a material transformation over the past two years, with commendable progress made in implementing a more rigorous (and pragmatic) investment strategy. The consequences of these efforts have started to show through meaningfully into the performances of the individual portfolio companies and, in turn, reflect positively on Karolinska Development itself.
- Pleasing progress reported across several companies** The news flow for a number of the portfolio companies over the past month has been positive. This includes: Aprea's enrolling patients for the APR-234 oesophageal cancer study; BioArctic's successful IPO; and Umechrine Cognition's encouraging result from its Phase Ib study. Further important value inflection points are expected for most of the portfolio companies over the coming 12-18 months.
- Re-valuation strengthens equity position** In our recent Outlook note (September 2017) we highlighted how, despite funding being in place for the known investment and operational needs, we believed the equity position would benefit from being strengthened. The re-valuation of Umechrine Cognition does strengthen the balance sheet and addresses our concerns.
- Valuation uplift driven by several factors** Our previous valuation of SEK566m (SEK8.92/share) was based, conservatively, on the four late-stage investments alone, with the remaining portfolio companies being further upside. The progress seen means we include for the first time Umechrine Cognition, as well as the value of the 3% holding in BioArctic. The impact of these changes results in a valuation of SEK1,042m (SEK16.44/share).

Price (SEK)	7.15
Market Cap (SEKm)	459.7
Enterprise Value (SEKm)	628.2
Shares in issue	64.3m
12 month range	5.25-10.20
Free float	100%
Primary exchange	OMX
Other exchanges	N/A
Sector	Healthcare
Company Code	KDEV
Corporate client	Yes



Company description:

Karolinska Development has been successfully transformed into a leading life sciences investment company that is notably active in the Scandinavian region.

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Karolinska Development: valuation update

Karolinska Development continues to make commendable progress across multiple fronts as the portfolio rationalisation and greater commercial focus bear fruit. The past month alone has seen a string of positive outcomes for several the portfolio companies, notably encouraging results in Umeocrine Cognition's Phase Ib clinical trial. Updating for these events, and including Umeocrine Cognition within our DCF-based model for the first time, sees our valuation rise from SEK566m (SEK8.92 per share) to SEK1,042m (SEK16.44 per share). The convertible debt and the complexity of the Rosetta Capital dividend split remain an overhang on the shares; nonetheless, we would argue these factors are well documented and already more than discounted in the price.

Updating for the progress being achieved sees a material uplift in our valuation.

Karolinska Development is expected to report its results for Q317 on the 31 October. In this Update note we recap the various pieces of news that have been reported by a number of the portfolio companies and have updated our DCF-based valuation model to reflect these. Importantly, the progress seen at Umeocrine Cognition means that we include its contribution to the model for the first time. Our updated model sees the valuation rising from SEK566m (SEK8.92 per share) to SEK1,042m (SEK16.44 per share). In line with our philosophy, we continue to employ conservative assumptions throughout; for example, we have not included the additional oesophageal cancer indication for APR-246 within our rNPV for Aprea. Similarly, the earlier stage portfolio companies and retained interests and potential earn-outs should be viewed as possible upside.

Fruits of the strategic review are starting to show through, with portfolio companies delivering

In our recent Outlook note (Portfolio companies delivering as planned – [September 2017](#)) we detailed how the past two years has seen a revitalisation of the company, with material changes to the investment philosophy, the adoption of a greater commercial outlook, and the creation of a more focussed portfolio. The consequences of these changes have started to show through into the performances of the individual portfolio companies and, importantly, within Karolinska Development itself.

Management's focus is now firmly on the effective execution of the strategy, with the priority being delivery on critical milestones ahead of potential exits (either through trade sales, IPOs, or licensing deals). Although timings are difficult to predict, the improving visibility suggests that, assuming current progress is maintained, the first major value realisation could happen within the next 12 to 18 months.

Balance sheet strengthened but convertible debt still an issue

The convertible debt and, to a lesser extent, the complexity of the Rosetta Capital dividend split understandably remain as overhangs on the shares. The [set-off issue](#) of the convertible bonds saw SEK 67m converted into 10.9m new B shares, which means SEK 384m worth of bonds remain outstanding. The balance sheet is currently sound and has funding in place for the known investment and operational needs, with SEK 189m in cash and equivalents at June 2017. The re-

valuation of the portfolio holdings, notably Umecrine Cognition, has strengthened the equity position (allaying a concern we raised in our Outlook note). Nonetheless, we would argue that these issues, although valid, are well documented and more than discounted in the share price.

Portfolio company progress in the past quarter

Aprea's pivotal APR-246 study results are expected in 2018

[Aprea Therapeutics](#) is a private Swedish company that is developing novel small molecules targeting the tumour suppressor protein p53 pathways. A Phase II trial of the lead compound, APR-246, in platinum-sensitive high-grade serous ovarian cancer is underway, with the results of this pivotal study expected in 2018. A similar programme examining platinum-resistant ovarian cancer patients is in Phase Ib. A Phase Ib/II trial is also underway in myelodysplastic syndrome, whilst in [October](#) the first patient was enrolled in a Phase Ib/II study in oesophageal cancer.

Sevuparin trial results expected in 2018

[Modus Therapeutics](#) was previously known as Dilaforette until it changed its name in October 2016. Its lead compound, sevuparin, is in Phase II trials in sickle-cell disease. This important study, involving around 150 patients, is expected to produce results in 2018.

Roll-outs continue as new distributors get up to speed

[OssDsign](#) makes bespoke craniofacial implants, where complicated or difficult cases require individualised implants. The distribution infrastructure has been expanded, with new partnerships in Italy, Spain, Austria, Switzerland, and The Netherlands (adding to those in the UK and Nordic region). Following 510(k) clearance earlier this year to market OSSDSIGN Cranial PSI in the US, a distribution agreement has been signed with Matador Medical Inc.

Commercialisation is underway

[Promimic](#) has developed a unique coating, known as HA^{nano} Surface, that is used to improve the integration of implants into bones. Commercialisation is now underway, notably in the important US market. Management has been strengthened with Tord Lendau elected Chairman and Magnus Larsson appointed CEO, replacing Ulf Brogren, who relocated to the US to lead the new sales operation in North America.

Tafoxiparin results are expected in early-2018

[Dilafor](#) is a drug development company that is developing pharmaceutical products for obstetric indications. Its lead compound is tafoxiparin, which is currently undergoing Phase II studies with first results expected in Q1 2018. A Phase IIb clinical trial with tafoxiparin in women with protracted labour was started in January 2017.

Umecrine Cognition shows promising Phase Ib results

[Umecrine Cognition](#) is developing compounds that act on endogenous CNS-active steroids (GABA-steroids). GR3027 is an orally active first-in-class agent that acts to counter the increased GABA_A signalling that is believed to cause the clinical symptoms of cognitive and motor function impairment in hepatic encephalopathy (HE). In September 2017 it [announced](#) positive Phase Ib data from 18 healthy males at doses ranging from 50 mg once daily to 100 mg twice daily for five days. GR3027 was well tolerated; adverse events were mild and no dose-limiting toxicity was seen. In October 2017 it [raised](#) SEK20m to finance an

exploratory Phase IIa for GR3027 in idiopathic hypersomnia, a severe orphan disease characterized by excessive daytime sleepiness. These developments have resulted in Karolinska Development [raising](#) the value of its holdings by SEK196m and our including Umeocrine Cognition in our valuation model for the first time (see Exhibit 1). This maiden contribution is SEK453m (SEK7.14/share).

Additionally, in October [BioArctic](#) was [successfully](#) floated on Nasdaq Stockholm. Karolinska Development has a 3.17%, which at the time of listing (12th October) was worth SEK48m (updated value is shown in Exhibit 1).

Valuation

Valuation using a three-phase DCF model suggests a value of SEK1,042m, or SEK16.44 per share

We employ a sum-of-the-parts DCF-based methodology (including rNPV models where appropriate) as we consider this to be the most appropriate way to value Karolinska Development. Importantly, we employ conservative assumptions throughout and only value the key late-stage investments. The inherent value of the other investments in the portfolio and potential earn-outs from previous investments are viewed as additional upside to our valuation. The progress being achieved across the portfolio is reviewed regularly and adjustments made to reflect this.

Exhibit 1: DCF valuation of Karolinska Development

Company	% ownership of Karolinska Development ¹	Peak sales of lead product (\$m)	Total NPV (\$m)	Likelihood of success	rNPV (\$m)	rNPV (SEKm)	Value of KD position (SEKm)	Value of KD position/share (SEKm)
Aprea ^{1,2}	18%	709	521.1	30%	156.3	1,328.7	239.2	3.77
Modus Therapeutics ²	73%	234	260.3	32%	83.3	708.0	516.8	8.16
OssDsign ^{1, 3}	28%	162	163.1	60%	97.9	831.8	232.9	3.67
Promimic ²	35%	17	28.1	80%	22.5	191.2	66.9	1.06
Umeocrine Cognition	68%	633	435.0	18%	78.3	665.6	452.6	7.14
BioArctic	3%					1,804.7	57.2	0.90
Value of payments to Rosetta Capital							(290.3)	(4.58)
Operating costs							(65.2)	(1.03)
Net cash at Q217							(168.4)	(2.66)
Total							1,041.8	16.44
Discount rate								12.5%
SEK/US\$								8.5
Tax rate of investment companies								30%

Source: Trinity Delta; Note: ¹% owned by Karolinska Development directly or by KDev Investments; ² Companies owned by KDev Investments, in which Rosetta Capital owns 7.5% of the equity, ³ Karolinska Development's fully diluted stake in OssDsign is now 20%, as OssDsign has recently revised its strategy to target a yet-to-be-disclosed larger opportunity; for the time being we continue to value OssDsign on its initial strategy with KDev Investments owning 28% of OssDsign. ⁴ The valuation of BioArctic and Karolinska Development's shares in the company are based on BioArctic's market cap on 26 October 2017.

The main factors driving the uplift in our valuation (as indicated in Exhibit 1) are the first-time inclusion of Umeocrine Cognition into our valuation model and the successful flotation of BioArctic on Nasdaq Stockholm. The new valuation is SEK1,042m, or SEK16.44 per share, which compares to our previous valuation of SEK566m, or SEK8.92 per share.

Exhibit 2: Summary of financials

Year-end: Dec 31	SEKm	2015	2016	2017E	2018E	2019E
INCOME STATEMENT						
Revenues		2.9	5.4	5.4	5.5	5.6
Cost of goods sold		0.0	0.0	0.0	0.0	0.0
Gross Profit		2.9	5.4	5.4	5.5	5.6
Personnel costs		(31.2)	(17.3)	(21.3)	(22.3)	(23.0)
Other expenses		(15.4)	(15.4)	(14.0)	(14.7)	(15.2)
Amortisation & depreciation		(0.1)	0.0	(0.1)	0.1	0.0
Underlying operating profit		(43.8)	(27.5)	(29.9)	(31.6)	(32.6)
Change in fair value of shares in portfolio companies		(976.5)	(147.0)	(9.2)	0.0	0.0
Results from sale of shares in portfolio companies		0.0	0.4	0.0	0.0	0.0
Other revenue/expenses		0.0	0.0	0.0	0.0	0.0
EBITDA		(43.6)	(27.0)	(29.9)	(31.6)	(32.6)
Operating Profit		(1,020.3)	(174.0)	(39.1)	(31.6)	(32.6)
Interest income		2.5	0.0	0.2	0.3	1.4
Interest expense		(40.1)	(42.8)	(38.8)	(34.2)	(34.2)
Other financing costs/income		3.2	0.0	0.0	0.0	0.0
Profit Before Taxes		(1,054.7)	(216.8)	(77.8)	(65.4)	(65.3)
Adj. PBT		(78.2)	(70.3)	(68.5)	(65.4)	(65.3)
Current tax income		0.0	0.0	0.0	0.0	0.0
Net Income		(1,054.7)	(216.8)	(77.8)	(65.4)	(65.3)
EPS (SEK)		(19.8)	(4.1)	(1.3)	(1.0)	(1.0)
Adj. EPS (SEK)		(1.5)	(1.3)	(1.1)	(1.0)	(1.0)
DPS (SEK)		0.0	0.0	0.0	0.0	0.0
Average no. of shares (m)		53.2	53.2	60.0	64.3	64.3
<i>Gross margin</i>		<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>
<i>EBITDA margin</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
BALANCE SHEET						
Current assets		307.7	249.8	177.0	145.8	114.7
Cash and cash equivalents		19.6	10.6	37.6	46.4	15.3
Short-term investments		277.6	237.5	137.5	97.5	97.5
Accounts receivable		0.0	0.0	0.0	0.0	0.0
Other current assets		10.4	1.7	1.9	1.9	1.9
Non-current assets		306.8	188.5	220.0	220.0	220.0
Property, plant & equipment		0.1	0.0	0.0	0.0	0.0
Investments in portfolio companies		267.7	149.4	180.9	180.9	180.9
Other non-current assets		39.0	39.1	39.1	39.1	39.1
Current liabilities		(11.9)	(9.3)	(7.7)	(7.8)	(7.8)
Short-term debt		0.0	0.0	0.0	0.0	0.0
Accounts payable		(1.4)	(1.5)	(1.2)	(1.2)	(1.2)
Other current liabilities		(10.5)	(7.8)	(6.5)	(6.5)	(6.5)
Non-current liabilities		(354.6)	(399.2)	(379.4)	(413.6)	(447.7)
Long-term debt		(349.2)	(394.4)	(374.6)	(408.8)	(442.9)
Other non-current liabilities		(5.4)	(4.8)	(4.8)	(4.8)	(4.8)
Equity		247.9	29.8	9.8	(55.6)	(120.8)
Share capital		1,901.0	1,901.0	1,971.4	1,971.4	1,971.4
Other		(1,653.1)	(1,871.2)	(1,961.5)	(2,026.9)	(2,092.2)
CASH FLOW STATEMENTS						
Operating cash flow		(58.3)	(23.3)	(32.4)	(31.2)	(31.1)
Profit before tax		(1,054.7)	(216.8)	(77.8)	(65.4)	(65.3)
Non-cash adjustments		1,012.0	188.3	47.8	33.8	32.7
Change in working capital		(15.8)	5.2	(2.6)	0.1	0.0
Interest paid		0.1	0.0	0.2	0.3	1.4
Taxes paid		0.0	0.0	0.0	0.0	0.0
Investing cash flow		(266.7)	14.3	61.8	40.0	0.0
CAPEX on tangible assets		0.0	0.0	0.0	0.0	0.0
Change in investments in portfolio companies		(119.3)	(27.0)	(37.8)	0.0	0.0
Other investing cash flows		(147.4)	41.3	99.6	40.0	0.0
Financing cash flow		331.7	0.0	(2.4)	0.0	0.0
Proceeds from equity		0.0	0.0	0.0	0.0	0.0
Increase in loans		364.0	0.0	0.0	0.0	0.0
Dividends		0.0	0.0	0.0	0.0	0.0
Other financing cash flow		(32.3)	0.0	(2.4)	0.0	0.0
Net increase in cash		6.7	(9.0)	27.0	8.8	(31.1)
Exchange rate effects		0.0	0.0	0.0	0.0	0.0
Cash at start of year		12.9	19.6	10.6	37.6	46.4
Cash at end of year		19.6	10.6	37.6	46.4	15.3
Net cash at end of year		(52.0)	(146.3)	(199.5)	(264.9)	(330.1)

Source: Karolinska Development, Trinity Delta Note: Adjusted numbers exclude changes in the fair value of portfolio companies and exceptionals. Forecasts exclude potential investments or divestments.

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