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BUY

VITA 34 INTERNATIONAL AG

GERMANY /  
HEALTH CARE

COMPREHENSIVE UPDATE

PRICE TARGET: €7.92  
PREVIOUS CLOSE: €4.57  
RETURN POTENTIAL: 73.3%

07 SEPTEMBER 2010





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## VITA 34 INTERNATIONAL AG

GERMANY / HEALTH CARE

Primary exchange: Frankfurt

Bloomberg symbol: V3V GR

ISIN: DE000A0BL849

### COMPREHENSIVE UPDATE

RATING:	<b>Buy</b>
PRICE TARGET:	<b>€7.92</b>
RETURN POTENTIAL:	<b>73.3%</b>
RISK RATING:	<b>Medium</b>

### VITA 34 ACQUIRES SPANISH PARTNER

**VITA 34 is Europe's second largest private umbilical cord blood (UCB) bank. It is the oldest and largest private cord blood bank in Germany and has an increasing international presence. It recently acquired an 88% stake in its Spanish partner, Secuvita. The acquisition will boost 2010 revenues from €15m to nearly €18m on the back of both new units stored and annual fees on existing Secuvita storages. The acquisition consolidates VITA 34's presence in Spain and will allow it to benefit more fully from the country's growing private cord blood banking markets. We reiterate our Buy rating and increase our price target to €7.92.**

**Acquisition is part of selective internationalisation strategy.** VITA 34 has a solid hold on the German market, but is looking to international expansion in order to benefit from the rapid growth in private cord blood banking in other European countries. In 2009 VITA 34 also entered into partnerships in Italy and Slovenia, which are beginning to make a contribution to profits.

**High domestic growth potential.** The number of parents choosing to privately bank their baby's cord blood in Germany is very small in comparison with other countries. VITA 34 is focussing its marketing efforts on increasing penetration across Germany. As scientific advancements increase the number of diseases for which stem cells offer hope for treatments, the number of parents deciding that private stem cell banking is a useful investment is likely to grow. This has the potential to significantly boost profits in the coming years.

**Revenue and profit contributions from Spain will increase in H2.** Secuvita was acquired in mid May 2010. Therefore VITA 34 incurred increased admin expenses in Q2 (€862k, Q1 €548k) while only consolidating Secuvita revenues for the final month and a half. We therefore anticipate increased profitability in H2 2010 and in 2011 as the one off acquisition costs subside and Secuvita's contribution is fully realised. We reiterate our Buy rating and increase our price target to €7.92.

### FINANCIAL HISTORY & PROJECTIONS

	2007	2008	2009	2010E	2011E	2012E
Revenue (€m)	15.43	14.96	15.10	17.46	19.91	21.06
Y-o-y growth	33.5%	-3.0%	0.9%	15.7%	14.0%	5.8%
EBITDA (€m)	-0.26	-1.83	0.74	1.33	1.98	2.16
EBITDA margin	-1.7%	-12.2%	4.9%	7.6%	9.9%	10.3%
EBIT (€m)	-0.83	-2.27	0.16	0.50	1.18	1.40
EBIT margin	-5.4%	-15.2%	1.1%	2.9%	5.9%	6.6%
Net income (€m)	-1.19	-1.71	0.60	1.02	1.84	1.21
EPS (diluted) (€)	-0.47	-0.65	0.23	0.39	0.70	0.46
P/E (x)	na	na	20.3	11.8	6.6	10.0
DPS (€)	0.00	0.00	0.00	0.00	0.00	0.00
Yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF (€m)	7.04	-2.63	-0.32	-7.24	3.01	2.59
Net gearing	16.9%	12.9%	45.4%	7.7%	10.8%	9.0%
Liquid assets (€m)	10.95	7.25	8.06	6.74	2.99	6.32

### RISKS

Risks to our price target include but are not limited to: marketing risk, competition risk, financial risk, and a lack of progress in scientific research.

### COMPANY PROFILE

Vita 34 International AG is a private umbilical-cord blood bank headquartered in Leipzig, Germany. The company offers expectant parents the one-time opportunity to preserve and store their baby's umbilical-cord blood for potential medical use. As of 30 June, Vita 34 had 131 full-time employees.

### TRADING DATA

Closing price (06.09.10)	€4.57
Shares outstanding	2.65m
Market capitalisation	€12.09m
52-week range	€4.20 / 5.88
Av. vol. (six months)	3,015

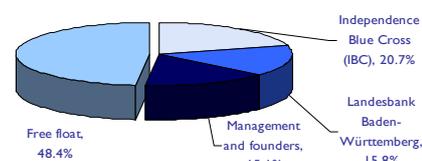
### STOCK OVERVIEW



### COMPANY DATA (as of 30 June 2010)

Liquid assets	€4.53m
Current assets	€9.52m
Intangible assets	€20.96m
Total assets	€36.75m
Current liabilities	€8.01m
Shareholders' equity	€18.93m

### SHAREHOLDERS





## **INVESTMENT CASE**

### **LARGEST PRIVATE CORD BLOOD BANK IN GERMANY WITH HIGH GROWTH POTENTIAL**

VITA 34 is the largest private cord blood bank in Germany, and has partnerships with around 90% of German clinics. Germany has one of the highest numbers of births per year in Europe. However, just over 2% of expectant parents privately bank cord blood, as opposed to other countries where market penetration reaches 16%. The low penetration rate is due to lack of awareness of the possibility and parent's uncertainty as to whether privately banking UCB is a good investment. VITA 34 is addressing this through various new marketing strategies. As the majority of VITA 34's customers are concentrated in the newer German states, VITA 34 is focussing marketing strategies to expand its presence in the older states, particularly those with high purchasing power. In addition, as scientific research supports the application of stem cell therapies in a greater variety of diseases, more parents are likely to see the utility of banking UCB. If VITA 34 is successful in increasing its presence and penetration across Germany, it has the potential to enjoy significant growth.

### **STRONG, EXPERIENCED MANAGEMENT**

The management team combines both scientific and business expertise. They have accumulated experience in the private cord blood banking industry since founding VITA 34 in 1997. Dr med. Eberhard Lampeter has been CEO since establishing VITA 34. He received a doctorate from the University of Leipzig in 1984, and acted as director of the Early Diabetes Detection Centre at the Diabetes Research at the University of Düsseldorf. Jörg Ulbrich was promoted to the management board as CFO in November 2009. Mr Ulbrich has worked at VITA 34 since 1997 holding senior positions. The Supervisory Board at VITA 34 is chaired by Dr. Holger Födisch who is also member of the management board of Dr. Födisch Umweltmesstechnik AG. The vice chairman is Richard J. Neeson who is also the Senior Vice President of Independence Blue Cross (IBC) and President and Director of the Boards of several IBC subsidiaries. Both are accompanied by Dr med. Uwe Marx who is a project manager at GO-BIO at Technische Universität Berlin and co-founder of VITA 34.

### **EXPANSION THROUGH ACQUISITIONS, STRATEGIC PARTNERSHIPS, AND DIVERSIFICATION**

VITA 34 is utilising a selective internationalisation strategy to take advantage of high birth rates and high penetration rates of UCB banking in other countries. They have recently acquired a majority stake in their Spanish partner, Secuvita. Partnerships have also been set up in Italy and Slovenia. VITA 34 is also exploring avenues in which to extend their value chain in order to boost EBIT margins and overall profitability.

### **HIGH QUALITY CONTROL LOWERS RISK**

Quality control standards are of utmost importance when dealing with cellular therapies. Therapeutic uses of stem cells are only successful when high numbers of viable cells are used. VITA 34 implements the highest quality control standards well exceeding recommendations suggested by researchers in the field. Poor quality control procedures could lead to the failure of banked units to lead to successful treatments when needed. If, in the future, one cord blood bank's samples consistently led to failed treatments, it would result in virtually irreparable reputation damage. By ensuring such high quality standards, VITA 34 ensures that treatment with its banked UCB units have a higher probability of success; and thus limit the exposure to such reputation risk.



## SWOT ANALYSIS

### STRENGTHS

- **Experienced management team.** VITA 34's CEO, Dr med. Eberhard Lampeter, has scientific expertise with stem cells and in diabetes research. The CFO, Mr Jörg Ulbrich, has many years commercial and management experience at VITA 34.
- **Strong position in Germany** VITA 34 is the oldest and largest private cord blood bank in Germany with a position protected by a regulated market posing strong barriers to entry.
- **Public banking option** Public debate over private banking versus public donation of cord blood is mounting. VITA 34 offers a public/private combination banking, thus bolstering VITA 34 from potential market loss due to changing public attitudes towards private UCB banking.

### WEAKNESSES

- **High dependence on German market** VITA 34 generates the majority of its sales in Germany, which creates a large dependence on its home market.
- **Limited international expansion** In comparison with competitors, VITA 34's international expansion has been modest. CryoSave is now the largest private UCB bank in Europe and is active in 42 different countries on 3 continents. VITA 34 may struggle to gain market share as it competes with CryoSave in other European countries.
- **Static market penetration** VITA 34 has struggled to significantly increase market penetration in Germany since its founding, and the majority of revenues remain concentrated around its Leipzig headquarters. As a result it is missing out on potential revenues from high income areas of Germany.

### OPPORTUNITIES

- **UCB stem cells private banking is a high growth market** Stem cells therapy is an emerging and dynamic field with the potential to establish itself as the next generation medical treatment for a wide number of diseases. The popularity of UCB banking is likely to increase as the science advances and public awareness increases.
- **International expansion could add significant growth** The company is expanding into new countries such as Spain, Italy, and Slovenia. This has the potential to increase revenues as VITA 34 gains access to further attractive markets.

### THREATS

- **Pricing pressure may increase** In some countries such as Greece and Spain it is customary for Gynaecologists to request payments for recommending private cord blood banks to expectant parents. German doctors do not currently request these payments. If this practice were to become customary, it could squeeze EBIT margins and would have the potential to make the business unprofitable.
- **Further market penetration in core German market may prove challenging** While market penetration in Germany is very low compared to international markets, creating more awareness among expectant parents may prove more difficult and costly than anticipated.
- **Recession may lead to lower birth rates across Europe.** Recession and high unemployment have been correlated to lower birth rates. There has been a significant slowdown in the growth of the private UCB market in Spain since mid 2008, though it is currently unclear whether this is due to a decreased percentage of parents opting to privately bank their baby's UCB, or a decreased number of births. With looming doubts over the health of the Euro zone economy, it is likely that a prolonged recession will negatively affect both birth rates and UCB banking rates in those countries most affected by poor economic conditions.



## VALUATION

Using our ten-factor risk analysis, we have determined a Medium risk rating for VITA 34. The main risk factors we have identified are marketing risk, competition risk, financial risk, and scientific risk. Using a DCF valuation, we have obtained a value of €7.92 per share.

In the first half of 2010 VITA 34 acquired an 88% stake in its Spanish partner, Secuvita for a purchase price of €4.9m. The deal will boost 2010 revenues from €15m to between €17m and €18m on the back of both new units stored and annual fees on existing Secuvita storages. We believe the €4.9m purchase price adequately reflects the value of the acquisition, and expect a smooth integration as a result of the previously established partnership. As the partnership with Secuvita was soon to expire and would likely not have been negotiated with as favourable terms, we view the acquisition as decreasing the risk attached to VITA 34's partnership with Secuvita. We have raised our price target from €7.80 to €7.92 to account for this decreased risk.

€'000	H2 2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E
Net sales	9,864	19,913	21,062	22,495	25,541	29,339	33,740	38,801
NOPLAT	222	829	978	1,041	1,347	1,816	2,316	2,926
+ depreciation & amortis. (excl. GW)	1,015	2,339	2,358	2,382	2,434	1,999	1,174	1,160
= net operating cash flow	1,237	3,167	3,336	3,424	3,781	3,815	3,490	4,085
- total investments (Capex and WC)	550	-1,168	-983	-1,177	-968	-1,147	-1,114	-1,091
Capital expenditure	-629	-1,691	-1,228	-1,483	-1,619	-1,958	-2,054	-2,172
working capital	1,179	523	245	306	651	811	940	1,081
+/- others (incl. adj. on net int., provisions, etc)	0	0	0	0	0	0	0	0
= Free cash flow (FCF)	1,787	1,999	2,354	2,246	2,813	2,668	2,376	2,995
PV of FCF's	1,700	1,635	1,656	1,359	1,464	1,194	914	991

€'000	
PVs of FCFs explicit period (2010-25)	17,464
PVs of FCFs in terminal period	3,094
Enterprise Value (EV)	20,559
(Net cash)/net debt	396
<b>Shareholder value</b>	<b>20,955</b>
Shares outstanding	2,647
<b>Fair value per share</b>	<b>7.92</b>

WACC	16.3%
Cost of equity	17.8%
Pre-tax cost of debt	6.0%
Normal tax rate	30.0%
After-tax cost of debt	4.2%
Share of equity	88.6%
Share of debt	11.4%
Terminal sales growth rate	2.0%
Terminal EBIT margin	10.0%

		Sensitivity analysis						
		Terminal sales growth rate (%)						
		0.5%	1.0%	1.5%	2.0%	2.5%	3.0%	3.5%
WACC	12.3%	11.12	11.17	11.22	11.27	11.34	11.41	11.48
	13.3%	10.11	10.14	10.17	10.21	10.25	10.29	10.34
	14.3%	9.25	9.27	9.29	9.31	9.34	9.37	9.40
	15.3%	8.52	8.53	8.55	8.56	8.58	8.59	8.61
	16.3%	7.89	7.90	7.91	7.92	7.93	7.94	7.95
	17.3%	7.35	7.35	7.36	7.36	7.37	7.37	7.38
	18.3%	6.87	6.87	6.87	6.88	6.88	6.88	6.89
	19.3%	6.45	6.45	6.45	6.45	6.45	6.45	6.45

Table I

Source: First Berlin



## PEER GROUP ANALYSIS

A comparison of peers operating in private cord blood banking offers merely an indication of performance across the sector. We hesitate to perform a peer group analysis as these companies operate in different geographic sectors, have varying levels of product diversity, and a variety of unique debt and equity structures. There are currently no international standards regarding quality control standards in cord blood banking. As a result, it is unclear whether higher margins result from cost savings that are actually to the detriment of UCB unit quality. If this is the case, it could hinder the company's future ability to generate revenues. Simple multiples valuations fail to take this risk into account.

## ENTERPRISE VALUE MULTIPLES

The private UCB banking industry has suffered due to the challenging global economic conditions. VITA 34 made a loss in 2008, but returned to profitability in 2009 due to a new cost efficient marketing strategy. A number of peer companies were losses making in 2009. Many of these companies have sought to boost their profitability by rapid geographic expansion and increased product diversity. As a result, they have incurred substantial expenses, increased leveraging, and face uncertainty in their future earnings. As VITA 34 has taken a more measured approach to expansion, it has returned to profitability more quickly than many peer companies.

Company	Currency	Domicile	Share price (€m)	Mkt. Cap (€m)	EV (€m)	EBIT (€m)	EBITDA (€m)	EV/ EBIT	EV/ EBITDA
Lifebank Corp	CAD	Canada	0.127	1.46	0.37	-0.37	-0.25	-1.01	-1.48
Cryosite Ltd	AUD	Australia	0.084	3.92	2.69	-0.39	-0.30	-6.82	-9.00
CryoSave N.V.	EUR	Netherlands	5.350	49.22	48.50	2.33	4.65	20.83	10.44
CryoCell	USD	USA	0.709	9.26	1.97	-2.86	-2.50	-0.69	-0.79
Cord Blood America	USD	USA	0.004	25.30	21.28	-4.35	-3.88	-4.89	-5.48
<b>Median</b>			<b>0.127</b>	<b>9.26</b>	<b>2.69</b>	<b>-0.39</b>	<b>-0.30</b>	<b>-1.01</b>	<b>-1.48</b>
<b>Vita34</b>	<b>EUR</b>	<b>Germany</b>	<b>4.530</b>	<b>12.12</b>	<b>11.72</b>	<b>0.16</b>	<b>0.74</b>	<b>72.38</b>	<b>15.84</b>

Table 2

Source: First Berlin



## EARNINGS GROWTH

Earnings growth across the sector has been minimal over the past three years, largely due to challenging worldwide economic factors. However, the industry remains in its infancy and this does not represent the high growth potential across the sector in the years to come. VITA 34's EBIT growth is lower than the median peer EBIT growth, but its earnings growth is well above. Over the last three years many of the peer group companies have used debt to finance aggressive expansion, whereas VITA 34 has maintained a healthy net cash position minimising finance costs. With positive earnings and healthy cash position, VITA 34 now has a strong base from which it is able to grow and expand its business.

Company	Mkt. Cap (€m)	EBIT Growth 2006-2009	EBITDA growth 2006-2009	Earnings Growth 2006-2009	Earnings 2008	Earnings 2009	PE	PE Growth 2006-2009
Lifebank Corp	1.46	0.51	0.54	0.92	0.79	-0.11	-13.79	-14.94
Cryosite Ltd	3.92	-0.71	-0.79	-0.45	0.45	0.01	540.67	-1,188.58
CryoSave N.V.	49.22	0.77	1.39	-0.56	2.46	1.20	41.03	-73.52
CryoCell	9.26	1.73	1.72	1.62	-0.73	1.19	7.78	4.81
Cord Blood America	25.30	-1.26	-1.13	-1.60	-6.92	-9.77	-2.59	1.61
<b>Median</b>	<b>10.57</b>	<b>0.51</b>	<b>0.54</b>	<b>-0.45</b>	<b>0.45</b>	<b>0.01</b>	<b>7.78</b>	<b>-14.94</b>
<b>Vita34</b>	<b>12.91</b>	<b>-0.69</b>	<b>-0.37</b>	<b>0.74</b>	<b>-1.70</b>	<b>0.60</b>	<b>20.34</b>	<b>27.31</b>

Table 3

Source: First Berlin

## RESULTS AND OUTLOOK

### 2010 INTERIM RESULTS IN LINE WITH ESTIMATES

VITA 34 recently published its 2010 Interim results summarised below:

	H1 2009	H1 2010	Dif	% change	% of 2010E	2010E
Storages	5,125	5,152	27	1%	48%	10,731
Revenue	7.03	7.60	0.57	8%	44%	17.464
Operating Profi	-0.18	0.18	0.36	203%	37%	0.501
EBIT margin	-2.5%	2.4%	5.0%	195%	n.a.	2.9%
Net Profit	0.00	0.24	0.25	6175%	24%	1.022
Diluted EPS	0.00	0.09	0.09	6175%	24%	0.39

Table 4

Source: First Berlin

These results are largely in line with our expectations following adjustments for the Secuvita acquisition detailed below. Revenues are increased over H1 2009 due to an increase in the number of storages. Profitability has increased largely due to a revised marketing strategy which greatly cut down on selling and marketing costs. The acquisition of Secuvita in May 2010 has led to an increase in operating expenses which subsequently decreased EBIT margins from Q1 (4.6%). These are largely one-off expenses, and we anticipate increased profitability from 2011 onwards. As there is a trend towards more births in the second half of the year, we believe that H1 results represent roughly 48% of new contracts for the year. Secuvita is being consolidated from May 2010, therefore the effects of Secuvita revenues and profits will have a greater effect during H2. Thus the interim results published are in line with our full year 2010 estimates.



## ACQUISITION OF SPANISH PARTNER SECUVITA

Spain is one of the most important private cord blood banking markets in Europe. The market penetration of private cord blood banking in Spain is nearly double that in Germany. And the Spanish health care system presents lower barriers to entry and easier access to expectant mothers than in Germany. VITA 34 has been operating in Spain since 2006 through a partnership with Secuvita. Recently VITA 34 acquired an 88% stake in Secuvita for €4.9m. The partnership contract was due to be renegotiated during 2010. Prior to the acquisition, Secuvita accounted for one in three storages at VITA 34. Decreased margins or the loss of Secuvita as a partner altogether would thus have been detrimental to VITA 34. Secuvita is the second largest player in Spain behind Crio Cord, Cryosave's Spanish subsidiary. The acquisition consolidates VITA 34's presence in Spain and will allow it to benefit more fully from the country's growing private cord blood banking markets. The acquisition will boost 2010 revenues from €15m to between €17m and 18m from both new units stored and annual fees on existing Secuvita storages. Here we provide changes to our estimates based on this acquisition:

### CHANGES TO FORECASTS FOLLOWING SECUVITA ACQUISITION

All figures in €'000	2010E			2011E			2012E		
	old	new	% change	old	new	% change	old	new	% change
Sales	15.50	17.46	13%	16.70	19.91	19%	18.04	21.06	17%
Operating profit	0.62	0.50	-19%	0.50	1.18	136%	0.72	1.40	94%
Net profit	1.16	1.02	-12%	1.22	1.84	52%	1.19	1.21	2%
Diluted EPS (€)	0.44	0.39	-12%	0.46	0.70	52%	0.45	0.46	2%

Table 5

Source: First Berlin

## NEW PARTNERSHIPS IN ITALY AND SLOVENIA

Italy and Slovenia, like Spain, have high birth rates and higher penetration rates of private UCB banking. VITA 34 recently entered the Italian and Slovenian markets via new partnerships. Storage began in early 2009 in Slovenia with Izvorna Celica d.o.o; and, at the end of 2009 in Italy with Sorgente S.r.L. Slovenia is a relatively small country with annual births around 20,000. We therefore don't believe the contribution of this partnership will be substantial. However, Italy is already exceeding VITA 34's expectations. VITA 34 is able to achieve much higher margins on these partnership sales, as the partner companies are responsible for all administration and marketing costs. The EBIT margins are 40% in comparison with 4% and 6% for Germany and Secuvita, respectively.

Using our 2011 estimates in order to exclude the effects of the midyear acquisition of Secuvita, we demonstrate that though Italy and Slovenia are only forecast to make a small contribution to revenues (3.2%, combined), the high margins obtainable on these partnerships will make up 21.2% of total EBIT. If VITA 34 is successful in securing further partnership deals achieving equally high margins, the company has the potential to significantly boost overall profitability.



**2011 ESTIMATES: REVENUE AND EBIT CONTRIBUTION BY COUNTRY**

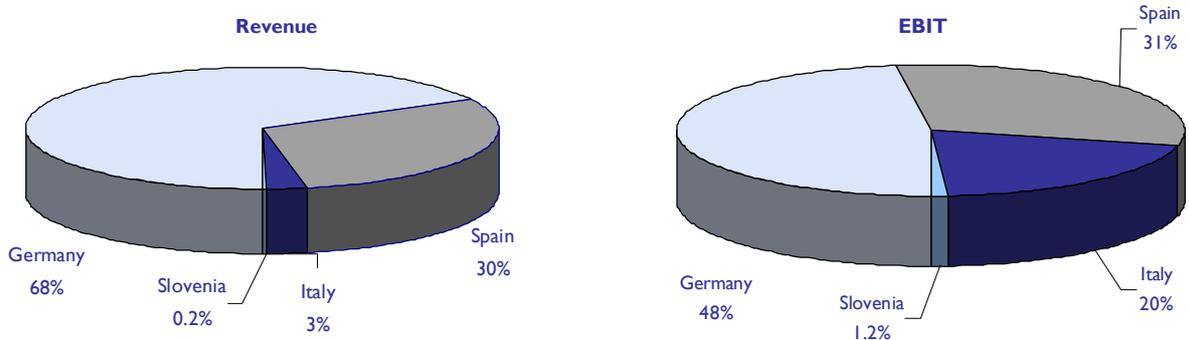


Figure 1

Source: First Berlin

**GROWTH IN NEW STORAGES IN GERMANY**

We have been conservative in forecasting the growth of new storages. We see significant upside to our valuation if VITA 34 is successful in securing the higher penetration rate they are striving for. VITA 34 derives its revenues from both storage fees on existing contracts and new storages. We currently estimate the contribution of existing storages making up roughly 5% of revenues attributable to VITA 34 in Germany. We see this slowly growing to 7% as the number of storages amassed increases each year. As the revenue from existing storages will achieve a much higher EBIT margin than new contracts, overall margins will increase over time.

**REVENUE AND EBIT FORECASTS FOR NEW AND EXISTING STORAGES IN GERMANY**

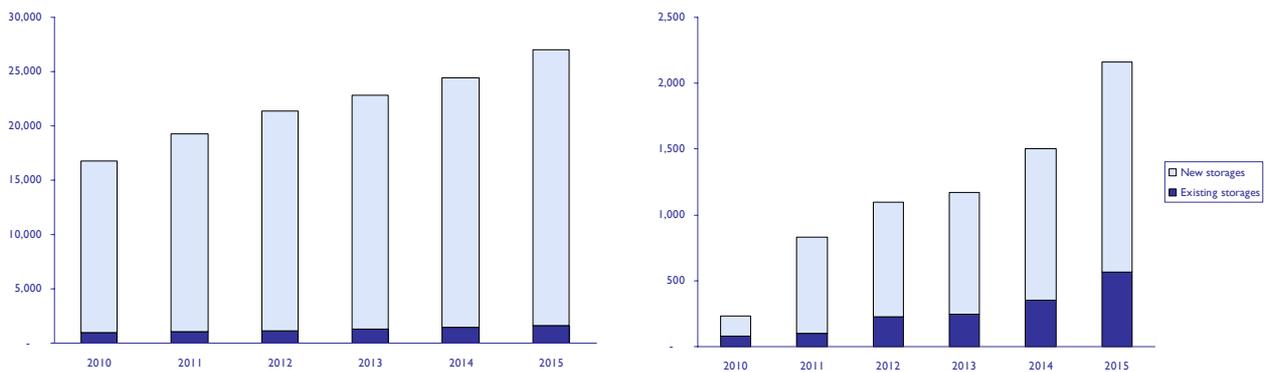


Figure 2

Source: First Berlin



## INCREASING MARKET PENETRATION EFFICIENTLY

The majority of expectant parents are poorly informed about umbilical cord blood banking and are unaware that private banking is an option. Thus VITA 34's major challenge is reaching these expectant parents and providing them with information about the UCB banking options available to them. During 2010 VITA 34 has revamped its marketing strategy based on experience and intensive market research. The new strategy focuses on cost efficiency and effectiveness. In Q1 of 2010 we were already able to see the result of the cost savings in profitability. We expect to see the benefits of these new marketing measures to begin to bear fruit during the latter half of 2010.

**Expectant parents:** VITA 34 is exploring novel, cost efficient ways of reaching expectant parents. They have cut high cost TV and internet advertising in favour of more effective, low cost strategies which are specifically directed towards expectant parents. They are focussing their efforts on reaching expectant parents through both traditional sources such as the call centre, magazines popular with pregnant women, and through new sources such as social networking sites.

**Gynaecologists and midwives:** Gynaecologists factor largely in the decision of expectant parents to privately bank their baby's UCB. VITA 34 is therefore aiming to facilitate conversations between doctors and patients about UCB banking. To this end, VITA 34 has recently entered into a co-operation with CompuGROUP. About 65% of German gynaecologists use CompuGROUP's software for clinical management. Under this agreement, a VITA 34 add-on to CompuGROUP's software provides gynaecologists with comprehensive, nonbiased information on cord blood banking, allowing it to easily be passed on to expectant parents. This tool has the potential to motivate doctors to inform and advise expectant parents of the potential benefits of storing cord blood, increasing awareness, and thus leading to a higher number of storages and sales.

**Insurance companies:** VITA 34 believes insurance companies are an attractive channel to potential customers. The company is pursuing agreements with the state health insurance companies through two key account managers. Some insurance companies are even willing to refund parents a portion of the costs of private storages. We expect further and more formalised co operations to emerge in the coming years, particularly as the evidence mounts supporting the benefits of stem cell therapies.



## BUSINESS SUMMARY

### WHY PRIVATELY BANK UMBILICAL CORD BLOOD?

Umbilical cord blood is a rich source of pluripotent stem cells, or cells that have the capacity to differentiate into a wide variety of different cell types. Bone marrow is often used as a source of these cells; however, stem cells found in umbilical cord blood are an increasingly attractive alternative to bone marrow for therapies and transplants. Currently, these stem cells are most often used to treat leukaemia and other blood disorders. Bone marrow (BM) transplantation is well established for various diseases, and cord blood is gaining acceptance as an equivalent, or in some cases, superior alternative source of stem cells. The therapy is also in clinical trials as a regenerative therapy for a variety of indications including critical limb ischemia, diabetes, cardiac insufficiency, and stroke<sup>2</sup>. As with all transplants, the degree of matching between the donated stem cells and a patient depends on particular blood-cell proteins called human leukocyte antigens, or HLA. The higher the HLA compatibility the lower the risk of potential complications, such as graft versus host disease (GvHD), a potentially fatal disease caused by the transplanted cells attacking the patient's own cells. Due to the stringent HLA matching requirements applying to BM transplants, and the invasive and risky nature of BM donation, only 80% of patients requiring a BM transplant will find a donor. This process takes on average 4 months<sup>10</sup>. In patients with deteriorating health conditions, long waiting times for transplants can significantly decrease the probability of therapeutic success. A child's own stem cells, or those of a sibling, banked as UCB offers a preferred option as it provides a depot of cells which are readily available and avoid any rejection risk.

Overall transplantation success rates are similar between UCB and BM<sup>1</sup>. Cell numbers available for cord blood transplantation are often lower than those available from bone marrow. But UCB offers a number of advantages to bone marrow transplantation. Bone marrow extraction is an invasive procedure with high risks for the donor such as anaesthesia-related surgical complications and risk of infection. UCB is collected from what would otherwise be waste material. It is non invasive and causes no harm to mother or child. The immaturity of the cells create a higher expansion potential than BM. And there is a lower risk of transmitting infections by latent viruses<sup>10</sup>.

Since 1993, 444 transplantations of privately stored umbilical cord blood have been performed. 14 of these used cells which had been stored at VITA 34. Currently the probability of using banked UCB cells therapeutically is 1:2000. However, the number of indications being treated by UCB is rapidly expanding<sup>2, 17</sup>. This will increase the frequency with which banked cells are used. As clinical trials more conclusively demonstrate the potential of UCB therapies and expectant parents become more aware of the possibility to bank UCB, the percentage of these parents choosing to privately bank their baby's UCB is likely to increase. (For a further discussion of scientific advances related to UCB stem cells, please see appendix).



## **PUBLIC VERSUS PRIVATE BANKING**

In private cord-blood banks, expectant parents pay the bank to preserve the cord blood for personal use. Alternatively, public banks accept donations and add these to a searchable registry. Publicly donated UCB is available to patients needing a non-self transplant worldwide. By donating UCB, donors relinquish any right to these cells, and have no assurance of access to these if needed for their own treatment.

The benefits of private versus public banking have been debated in the scientific and medical communities<sup>4, 14</sup>. The main arguments against privately storing UCB are that the chances of any one child actually using the banked cells are small. Privately banking cells with a small chance of being used potentially denies access to these cells by an unrelated patient who may urgently need them. Thus publicly banked UCB is argued to be a more efficient use of resources.

In order to address this, VITA 34 has entered into cooperation with the North German Bone Marrow and Stem Cell Register (NKR). Under this cooperation, expectant parents who privately bank their baby's UCB may also add the unit to NKR's registry. Should it be identified as a match, parents are then given the option to either donate the cells or retain them for their child's use at a later date.

As both private and public banking increase in popularity, increasing public debate surrounding the public or private ownership of UCB is likely to occur. VITA 34 is the one of the only private banks allowing public donation, and in doing so, has decreased its risk of losing market share due to changing societal attitudes towards privately banked UCB.

## **VITA 34'S PROCESS FOR CORD BLOOD COLLECTION AND BANKING**

VITA 34 charges an initial collection and processing fee of €1,990 and an annual storage fee of €44 after the child's first birthday. VITA 34 has recently introduced an additional product including further testing for an additional €500 fee, which roughly a quarter of expectant parents is now choosing. For units added to the NKR registry for donation, NKR pays VITA 34 a storing fee, which covers costs and a small profit. If the UCB is donated, the parents are refunded in full. Parents are only invoiced after collection and determination of quality of UCB, which generally occurs 4 weeks after the birth of the child.

Expectant parents interested in privately banking their baby's UCB contact VITA 34's call centre to request information. The call centre's staff is available to discuss the decision making process with parents and assist in an initial screening of donor eligibility. If the parents decide to bank their child's UCB they will sign the open-ended contract 4-6 weeks before childbirth. VITA 34 then sends an extraction set to the expectant parents which they take with them to the hospital. Following the birth when the umbilical cord is clamped, a trained medical professional drains the blood into a sterile, anti-coagulating blood-collection bag. The sample is then couriered to VITA 34's lab within 24 hours under temperature control. In the laboratory, employees take a small sample which undergoes a stringent battery of tests to assess quality. Studies have shown that when used therapeutically, the number of viable cells is strongly correlated to better clinical outcomes. Therefore, stringent quality control procedures ensuring



the highest number of viable cells collected and maintained throughout the storage procedure are of utmost importance. If the results of the examination are satisfactory the parents receive a certificate quality and are invoiced. Samples are then cryopreserved and maintained at  $-196^{\circ}\text{C}$  until needed for a therapeutic use.



Figure 3

Source: First Berlin, adapted from VITA 34

## DOMESTIC MARKET ANALYSIS

### HIGH GROWTH POTENTIAL IN THE GERMAN MARKET

There are currently around 680,000 babies born in Germany every year. This is one of the highest numbers of births in Europe. However, private UCB banking has extremely low penetration rates in Germany. In 2007 only 1.8% of expectant parents decided to privately bank their baby's UCB compared with up to 16% in other countries. Since then the number of German parents choosing private UCB banking has steadily increased. VITA 34 now believes that between 2 and 3% of German parents are banking their baby's UCB. If the 16% seen in other countries is taken as an indication of the German market potential and VITA 34 is successful in reaching this untapped market, it could enjoy revenue increases of up to ten times.

### POTENTIAL STORAGES PER YEAR

Country	Number of births in 2007*	% of parents choosing private UCB banking**	Total UCB storages per country	Potential storages at 16% of births
Germany	682,700	1.8%	12,289	109,232
Spain	488,300	4%	19,532	78,128
Italy	563,200	4%	22,528	90,112
Portugal	102,500	10%	10,250	16,400
Greece	110,000	16%	17,600	17,600

Table 6

Source: First Berlin, \*Eurostat 2007, \*\*VITA 34

VITA 34 has noted a fairly strong difference in the penetration rates in the old and new German states. The majority of VITA 34's customers are concentrated in eastern Germany around VITA 34's Leipzig headquarters. This geographic development is due to VITA 34's strong local relationships with doctors and expectant parents. In clinics where VITA 34 has a strong presence nearly every expectant parent receives information about storing umbilical cord blood. In these clinics, VITA 34 achieves a two and three fold increase in market share in comparison with Germany overall. VITA 34 has turned its attention towards increasing its presence and penetration in the older German states where much of the purchasing power in Germany is concentrated.



## KEY COMPETITORS IN GERMANY

VITA 34 has a secure hold on the German market. There are a handful of other players active in Germany: Eticur (Munich), Cryo-Save (the Netherlands), SeraCell (Rostock) and Stellacure (Hamburg, recently acquired by Cord Blood America). The German Medicines Law states that clinics involved in the collection of UCB require a production accreditation. In order to obtain this, the cord blood bank is required to train clinic personnel in collection procedures, and have a cooperation agreement in place with each clinic. There are around 950 separate clinics in Germany. VITA 34 has partnerships with more than 860 (91%) of these clinics. It is unlikely that clinics will have more than one or two UCB bank partnerships. This, therefore, creates significant barriers to entry for competitors hoping to gain market share in Germany. Companies storing UCB outside of Germany, such as CryoSave, are able to circumvent this requirement. However German parents are more likely to trust a company which is regulated by German law and stores units in Germany. Thus, Cryosave has virtually disappeared from the German market in recent years.

## COMPETITORS IN THE GERMAN MARKET

Contractual conditions	Vita34	Eticur	Stellacure	CryoSave	SeraCell
Advance payment	0	300	250	210	0
Initial collection and processing fee	1,990	2,100	1,700	1,775	290
Annual storage fee years 1-10	43.70	0	30	0	72
Annual storage fee years 11-21	43.70	0	30	0	48
Annual storage fee after 21 years	43.70	33	30	40	24
Minimum contract	-	21 years	21 years	21 years	-
Total price (25 years)	2,490*	2,532	2420**	2,145	1,580***
Total price (40 years)	3,146	3,027	3,120	2,745	1,940
Public donation available	Yes	Yes	No	No	No
What is stored	Entire UCB	Extracted blood cells only			

\* VITA 35 Classis with Kompakt 25 option

\*\*Stellacure PRO 21 year option

\*\*\*SeraCell Premium 25

Table 7

Source: First Berlin

**Strategy of Differentiation:** Excluding SeraCell, the low price competitor, prices and contractual terms of VITA 34's are roughly in line with that of its main competitors. VITA 34 is somewhat more expensive than other players. VITA 34's high penetration rate in areas of Germany with low purchasing power suggest that cost is not the primary concern of parents seeking to bank their baby's UCB. VITA 34 seeks to differentiate itself by offering a high quality product prepared utilising the highest quality standards. When used therapeutically, clinical success of UCB transplant is largely dependent on the quality of the sample used. There are a variety of risks involved in storing biological products. UCB contains living cells which are extremely sensitive to temperature changes, manipulation, and the methods of cryopreservation and thawing prior to use. Therefore it is vital that employees are well trained, equipment is reliable, and processes are optimised through continuing research.

There are currently no international standards beyond GMP (good manufacturing process, the manufacturing standard for all pharmaceutical products) that are specific to UCB. VITA 34



employs standards significantly above those called for in scientific literature for cord blood banking. There is a lack of transparency in competitor's quality control processes, but it is becoming clear that many of the standards are not as stringent as VITA 34's. Seracell, for example works only in one shift increasing time from collection to cryopreservation. VITA 34's research has shown that this time matters with regard to survival and function of the stem cells after thawing. Due to the time lag between banking and therapeutic use of cells, quality issues with cell preparations may not become evident for many years after banking. However, in the future it may become clear that improper procedures used by a competitor have rendered some or all UCB units stored by that competitor inviable. We believe it would be nearly impossible for any company to recover from the resultant reputation damage. We view VITA 34's clear commitment to enforcing the highest quality standards and continuing research on these standards to significantly decrease this potential reputation risk.

Additionally, VITA 34 stores the entire UCB sample as opposed to only the extracted blood cells. Scientists have not yet fully characterised the various cell types contained in umbilical cord blood. Recent research suggest additional cell populations may offer therapeutic advantage unique to or greater than the those commonly isolated and stored (see appendix for further discussion of cells contained in UCB). A few of VITA 34's competitors have begun to offer storage of other cells in addition to the blood cells. However, they are offering this as an additional product for which they charge premium fees.

**Lower price alternative:** SeraCell aims to capture a large portion of the market by pursuing a low-price strategy. The company entered the private UCB banking business in 2008 using the internet as its core marketing platform supported by a call centre. SeraCell's CEO and co-founder, Rochus Wegener, has experience in internet marketing and was CEO at Stratos AG, an internet/web services provider, where he was successful with a low price, high volume strategy. We have doubts about the sustainability of Seracell's current prices. We believe the company's strategy is dependent on raising prices in the future, and a variety of add-on premium services which will bring prices more closely in line with other players. In the near term, we believe the company will be able to capture a portion of low budget expectant parents, though it will be difficult for SeraCell to achieve a considerable critical mass without significant marketing expenditures. In addition, as VITA 34 offers a high cost, high value, differentiated product, we don't necessarily see overlap between the potential customer markets of SeraCell and VITA 34.



## INTERNATIONAL MARKET ANALYSIS

### VITA 34 POISED TO BENEFIT FROM PRIVATE UCB BANKING REGULATIONS

Attitudes towards UCB banking and donation vary across Europe. In some countries, UCB is viewed as a national resource that should be publicly available to anyone who needs it as is the case with blood. The role of public versus private banking is an ongoing debate in many European countries, and public policies are under review. In a number of countries, including Spain and Italy, UCB may be privately collected but must be stored in another country. France has even more restrictive regulations. Germany and the Netherlands have no such regulations. Thus, VITA 34, CryoSave, and Cord Blood America (operating in Germany through its subsidiary, StellaCure) are uniquely poised to benefit from these regulations.

To date, VITA 34 has been very selective in its international expansion and has taken a measured approach. The company continues to look for partnering opportunities in European countries and licensing opportunities in other regions such as Asia, and the Middle East. Internationalisation will be important to achieve continued profits and growth. However, there are a number of challenges inherent in international expansion that must be addressed:

*Reputation Risk:* The need for high quality partners limits the international expansion options available. VITA 34's high quality "made in Germany" brand could be damaged if associated with companies employing less stringent quality standards. Due to the fragile nature of living cells it is important that VITA 34 maintain control over its operations. VITA 34 must continually strive to avoid placing its reputation in the hands of partner companies employing less stringent commitments to quality.

*Logistics:* Wide geographic expansion creates a number of logistical hurdles. UCB must be delivered to the lab and processed within 48 hours under tight temperature control. As distance from VITA 34's headquarters in Leipzig expands, so do the logistical challenges inherent in transporting UCB units to the lab. Warmer climates can also pose problems as cells are sensitive to increases in temperatures. VITA 34's expansion potential could increase by licensing a cord blood bank in another country, but this could also increase the risk of quality related problems, as VITA 34 would not have the same level of control over operations.

*Pressure on margins:* Many European countries have higher birth rates and clearly higher percentages of parents choosing to privately bank their child's UCB than Germany. These are seemingly attractive markets for cord blood banking. However, differing cost structures may prevent these markets from achieving profitability. Greece, for example, has one of the highest birth rates and highest rates of UCB banking in Europe. However, gynaecologists in Greece expect to be paid by the company for collecting UCB. CryoSave was active in Greece, but has since left as it was unable to make a profit due to this system of payments. Therefore each country must be individually examined for not only revenue, but profit potential before expansion.



## **COMPETITION FOR THE EUROPE-WIDE MARKET**

The private cord blood banking industry has undergone significant international consolidation in recent years. This has largely been driven by CryoSave, the European market leader, which has implemented an aggressive acquisition strategy to expand its international presence. At the end of 2009 Cryo Save reported a cash position of €7.5 and positive cash flows of €2.8m. Thus the company has the capacity to expand into new areas and further invest in the areas in which it is currently active.

The European market is becoming increasingly saturated and competitive, while rates of UCB banking are likely to stagnate over the next few years due to the challenging economic conditions in Europe. In order to undergo successful geographic expansion, VITA 34 will have to work quickly to secure partnerships in other countries ahead of its competitors. At the same time, VITA 34 must be careful not to overreach, thus losing control of operations or its reputation. We believe that establishing partnerships such as those with Izvorna Celica and Sorgente allow VITA 34 to enjoy higher margins on partnership sales while building relationships with potential acquisition targets. However, the need to renegotiate such partnership deals could prevent VITA 34 from enjoying such high margins in the future. As the private UCB banking market is in its infancy, VITA 34 must seek to position itself to take advantage of the anticipated high growth in private UCB banking in the future.



## APPENDIX: UMBILICAL CORD BLOOD STEM CELLS

### THERAPEUTIC USES OF UMBILICAL CORD BLOOD

**UCB as an alternative to Bone Marrow for blood diseases:** The first successful UCB transplant was performed in 1988 when a boy with Fanconi's anaemia received cryopreserved UCB from an HLA-identical sister. Over the past 20 years over 20,000 procedures have been conducted with steadily improving outcomes alongside advancements in research and knowledge regarding the therapy<sup>1, 10</sup>. Currently UCB is primarily applied as an alternative therapy for bone marrow (BM) transplantation. Lower numbers of cells in cord blood versus bone marrow have largely limited transplants to children. However, recent scientific advancements have allowed this treatment option to be extended to adults<sup>1</sup>. Approximately two-thirds of patients receiving UCB transplants suffer from leukaemia or other blood diseases, and one third from congenital disturbances or functional failure of the bone marrow. Treatment for these diseases involves high-dose chemotherapy and radiation which kills tumour cells and other fast-growing tissues such as bone marrow, which must then be replaced. Both UCB and BM contain pluripotent stem cells can be transplanted into patients to restore lost bone marrow.

**Regenerative Medicine:** While the majority of transplants today occur for leukaemia and blood diseases, advancements in research are expected to lead to increased application of stem cell therapies in the future. UCB stem cells have the capacity to differentiate into many different cell types including blood cells, neurons, muscle, liver, bone, cartilage cells, and endothelial cells which cover the inside of vessels<sup>2</sup>. In addition, they are angiogenic, or encourage the growth of new blood vessels, thus restoring blood flow to damaged tissue. Furthermore, recent evidence suggests they have the capacity to induce growth factors, or proteins which stimulate tissues to regenerate themselves<sup>6</sup>. Therefore by the combination of these three methods of action, stem cell therapies offer huge potential in the healing of many previously incurable diseases by regenerating diseased and damaged tissue. The most promising new indications for stem cell therapy are critical limb ischemia (CLI), cardiac insufficiency, and diabetes. There have also been significant advances in stem cell therapies for central nervous system disorders: stroke, spinal cord injury, multiple sclerosis, and Parkinsons<sup>2</sup>. Many of these procedures are still at an investigational stage, but an increasing number have entered clinical trials. Encouraging experimental results are raising expectations among the scientific community. As UCB becomes an approved treatment for further indications, the probability of requiring UCB cells will decrease from 1:2000. This is likely to lead to a significant increase in autologous UCB banking.

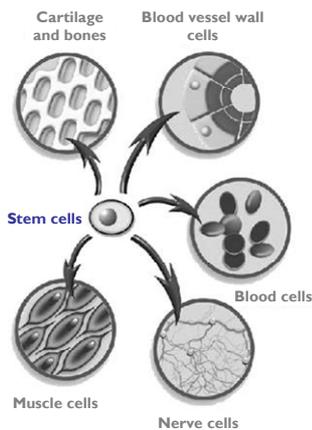


Figure 4 Source: VITA 34

## UMBILICAL CORD BLOOD CONTAINS MANY TYPES OF CELLS

UCB contains a variety of cell types including hematopoietic stem cells, mesenchymal stem cells, and epithelial progenitor cells. These loose classifications of cells are actually made up of heterogeneous cell populations which have not yet been fully characterised<sup>1, 5, 16</sup>. The majority of stem cell banks isolate only those cells which are currently known to offer a therapeutic advantage. However, scientists are beginning to identify other populations of stem cells present in UCB that may be even more therapeutically beneficial than those cells commonly stored. As the cells contained in the umbilical cord blood are involved in early development, it is logical that these cells would exist in various stages of maturity. The protocols used to isolate blood cells may result in many of these other cell types being discarded. For example, there have recently been a number of papers published on very small embryonic-like stem cells (VSELs)<sup>5, 12, 18</sup>, which have recently been characterised in both bone marrow and umbilical cord blood. These cells are more immature than other stem cells present in UCB and are believed to have higher expansion potential and increased pluripotency, or the capacity to differentiate into a greater number of cell types<sup>18</sup>. Other sub-populations of cells are beginning to be characterised, and these are likely to have differential therapeutic potential<sup>5, 12, 18</sup>. It is relatively easy to separate cells prior to treatment. Therefore, it makes little sense to discard cells prior to banking that may be determined to be beneficial in the future.

## SCIENTIFIC ADVANCES ARE ADDRESSING LIMITATIONS OF UCB

**Lower numbers of cells are present in UCB:** The low number of stem cells in UCB has traditionally limited the therapy to pediatrics<sup>1</sup>. For the established uses in blood disorders, the current recommendations suggests use of a cell dose of at least 25m cells per kg of body weight for an allogenic (donor  $\neq$  patient) transplant, but better results have been achieved with double that<sup>8</sup>. Due to the better matching in an autologous (donor = patient) transplantation, half the quantity of cells (12.5m/kg) is sufficient. Therefore an average unit of autologous UCB contains enough cells to treat an individual only up to 70 kg. Cell doses for regenerative therapies are still being investigated, and the cell number is likely to depend on the specific indication being treated. In addition, various strategies are being explored to overcome this hurdle of UCB transplantation:



**Better matching reduces the number of cells required:** Clinical studies have shown that the higher the HLA matching of UCB, the better the clinical outcomes and lower the failure rates of transplantation. Furthermore, as HLA matching improves, better results are obtained with fewer cell numbers<sup>8</sup>. This correlation has so far only been studied with allogenic, HLA-matched transplants. But as more research is performed, it may become evident that in the case of a perfectly matched autologous sample, even the low cell numbers derived from UCB will be sufficient to use as a treatment for adults.

**Specific cell populations may increase effectiveness:** As the various cell types contained in UCB become better characterised, it is possible that overall cell doses may decrease in favour of lower numbers of specific cell types. Recent clinical studies have suggested that the most important factor in speeding this recovery time is the number of a specific cell type (CD34+). One clinical trial attempted a simultaneous transfer of purified CD34+ blood cells along with HLA matched UCB. This novel approach led to a quick recovery, but raised concerns of GvHD from the allogenic transplant<sup>1</sup>. This approach has not been attempted with autologous UCB, but this would eliminate the risk of GvHD. Further studies may validate it as a future treatment option.

**Expansion of cells prior to transplantation leads to promising advances:** A number of biotech companies and research groups are exploring techniques for multiplying stem cells through the addition of growth factors, or proteins involved in cell replication; and bioreactors, or closed systems where stem cells multiply through the addition of a medium containing growth factors. One study was able to demonstrate a clinically viable expansion technique in a Phase I clinical trial. This group used a protein called Notch, which is involved in cell division during development, to expand a unit of cord blood. Patients were treated with one normal unit of cord blood and one unit of expanded cord blood. Individuals receiving the expanded unit demonstrated quicker engraftment and recovered the ability to produce white blood cells faster than patients receiving a non expanded unit<sup>13</sup>. VITA 34 is accumulating expertise in the field through collaboration with Leipzig University. When it becomes clear which company or research centre has the most efficient approved technique, VITA 34 intends to seek cooperation in order to take full advantage of the advancements in this technology.

**Limitations of cryopreservation:** The duration of storage for viable UCB cells has not yet been defined. Cryopreservation is a commonly used technique in all fields of biological research. Cells are stored in a gaseous phase in which no chemical or biological processes take place. The maximum temperature called for in literature is  $-130^{\circ}\text{C}$ <sup>5</sup>. VITA 34 stores cells at  $-196^{\circ}\text{C}$  which is safely below this maximum. A number of studies have shown the frozen stem cells retain viability and functional capacity for up to 15 years<sup>15</sup>. Studies on longer periods have not yet been performed. Further evidence on this will be accumulated over the coming years, though there is no evidence to suggest that the cells would not be viable for much longer periods of time.



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## INCOME STATEMENT ANALYSIS

All figures in T€	2007	2008	2009	2010E	2011E	2012E
Revenues	15,426	14,957	15,097	17,464	19,913	21,062
Cost of goods sold	-5,032	-5,149	-4,958	-5,763	-6,615	-6,848
Gross profit	10,394	9,808	10,139	11,701	13,297	14,214
Marketing and selling expenses	-8,429	-9,637	-7,629	-6,986	-9,819	-10,371
General & administrative expenses	-2,816	-2,938	-2,763	-4,594	-3,273	-3,457
Other operating income	280	730	554	554	543	544
Other operating expenses	-261	-233	-139	-175	435	467
Operating income (EBIT)	-832	-2,270	162	501	1,184	1,397
Net financial result	-1,300	-107	496	522	304	451
Income before taxes & minority interests	-2,132	-2,377	658	1,023	1,488	1,848
Income taxes	-98	417	-62	-1	356	-634
Income/loss from continuing operations	-2,230	-1,960	596	1,022	1,844	1,214
Income/loss from discontinued operations	1,045	248	0	0	0	0
Income/loss attributable to Minority interests	0	0	0	-17	-32	-33
Net income / loss	-1,185	-1,712	596	1,022	1,844	1,214
EBITDA	-255	-1,826	739	1,326	1,977	2,161
Ratios						
Gross margin	67.4%	65.6%	67.2%	67.0%	66.8%	67.5%
EBIT margin	-5.4%	-15.2%	1.1%	2.9%	5.9%	6.6%
EBITDA margin	-1.7%	-12.2%	4.9%	7.6%	9.9%	10.3%
Net income margin	-7.7%	-11.4%	3.9%	5.9%	9.3%	5.8%
Tax rate	-4.6%	17.5%	9.4%	0.1%	-23.9%	34.3%
Expenses as % of revenues						
Marketing and selling expenses	54.6%	64.4%	50.5%	40.0%	49.3%	49.2%
General & administrative expenses	18.3%	19.6%	18.3%	26.3%	16.4%	16.4%
Other operating income	1.8%	4.9%	3.7%	3.2%	2.7%	2.6%
Other operating expenses	1.7%	1.6%	0.9%	1.0%	-2.2%	-2.2%
Y-o-y growth						
Total revenues	33.5%	-3.0%	0.9%	15.7%	14.0%	5.8%
Operating income	n.a.	172.8%	n.a.	209.3%	136.3%	18.0%
Net income/ loss	-53.8%	44.5%	n.a.	71.5%	80.4%	-34.1%

Source: Vita 34, First Berlin estimates



## BALANCE SHEET ANALYSIS

All figures in T€	2007	2008	2009	2010E	2011E	2012E
<b>Assets</b>						
Current assets, total	13,990	10,552	11,768	11,639	8,574	12,228
Inventory	572	584	554	600	684	724
Trade receivables	1,254	1,600	2,334	2,700	3,079	3,256
Other receivables	1,211	1,118	825	1,600	1,824	1,930
Short term investments	1,951	876	2,000	1,500	0	0
Cash and cash equivalents	9,002	6,374	6,055	5,239	2,987	6,319
Non-current assets, total	18,269	19,756	19,382	27,191	26,799	25,789
Goodwill	11,911	11,911	11,911	13,301	13,301	13,301
Intangible assets	740	930	795	7,500	6,372	5,200
Property, plant and equipment	2,622	3,054	3,319	3,900	4,381	4,423
Investments	214	26	155	0	0	0
Other financial assets (NC)	35	35	35	38	38	38
DT assets	222	736	667	0	0	0
Long-term trade receivables	1,459	1,996	1,805	1,820	2,075	2,195
Restricted cash	1,066	1,068	695	632	632	632
Total assets	32,259	30,308	31,150	38,830	35,373	38,017
<b>Shareholders' equity &amp; debt</b>						
Current liabilities, total	3,298	3,617	3,500	4,775	5,427	5,733
Trade payables	884	1,087	813	800	912	965
Silent partner interests (current)	0	497	0	0	0	0
Provisions (current)	215	105	363	250	285	301
Income tax payable	112	208	195	0	0	0
Interest bearing loans (current)	213	125	125	125	125	125
Deferred grants (current)	81	81	50	0	0	0
Other liabilities (current)	1,370	993	1,314	2,600	2,965	3,136
Deferred income	423	521	640	1,000	1,140	1,206
Long-term liabilities, total	9,232	8,586	8,777	15,761	9,943	11,130
Interest bearing loans (NC)	1,625	1,500	1,375	7,241	475	1,217
Silent partner interests (NC)	0	1,442	1,417	940	940	940
Deferred grants	676	741	846	818	818	818
Deferred income (NC)	5,154	5,405	5,616	5,800	6,613	6,995
Provisions (NC)	299	0	0	0	0	0
Shareholders equity, total	19,729	18,105	18,873	18,294	20,003	21,154
Share capital	2,647	2,647	2,647	2,647	2,647	2,647
Capital reserve	23,116	23,192	23,236	23,236	23,236	23,236
Other reserves	-12	0	128	128	128	128
Loss carryforward / retained earnings	-6,022	-7,734	-7,138	-7,717	-6,008	-4,857
Total shareholders equity & debt	32,259	30,308	31,150	38,830	35,373	38,017
<b>Ratios</b>						
Current ratio	4.24	2.92	3.36	2.44	1.58	2.13
Quick ratio	4.07	2.76	3.20	2.31	1.45	2.01
Equity ratio (as %)	61.2%	59.7%	60.6%	47.1%	56.5%	55.6%
Debt to equity ratio (gearing as %)	-44.6%	-29.2%	-33.6%	4.9%	-10.6%	-22.3%
Equity per share	7.45	6.84	7.13	6.91	7.56	7.99
Net debt	-8,799	-5,291	-6,345	897	-2,117	-4,707
Interest coverage ratio	-0.64	-21.21	-0.33	-0.96	-3.89	-3.10
Capital employed (CE)	11,744	12,819	12,707	20,971	19,801	18,426
Return on equity (ROE)	6.0%	9.5%	-3.2%	-5.6%	-9.2%	-5.7%
Return on capital employed (ROCE)	10.1%	13.4%	-4.7%	-4.9%	-9.3%	-6.6%
Days of inventory turnover	41.5	41.4	40.8	38.0	37.7	38.6
Days of sales outstanding (DSO)	29.7	39.0	56.4	56.4	56.4	56.4

Source: Vita 34, First Berlin estimates



## CASH FLOW ANALYSIS

All figures in T€	2007	2008	2009	2010E	2011E	2012E
Income before taxes (adj. on discontinued operations)	-2,132	-2,377	658	1,023	1,488	1,848
Depreciation and amortisation	404	444	577	1,497	2,339	2,358
Change in working capital	-1,008	-893	582	307	523	245
Others (cash from acquisitions, non cash exp, etc.)	1,072	-113	-668	-5,197	356	-634
Operating cash flow	-1,664	-2,939	1,149	-2,370	4,705	3,818
Cash flow from investing activities	-375	330	-1,356	-4,812	-1,691	-1,228
Free cash flow	-2,039	-2,609	-207	-7,182	3,014	2,590
Financial cash flow	8,645	-1,094	1,012	5,866	-6,766	742
Change in cash and cash equivalents	6,606	-3,703	805	-1,316	-3,752	3,332
Cash and cash equivalents brought forward	4,347	10,953	7,250	8,055	6,739	2,987
Cash and cash equivalents carried forward	10,953	7,250	8,055	6,739	2,987	6,319
<b>Y-o-y growth</b>						
Operating cash flow	n.a.	n.a.	n.a.	n.a.	n.a.	-18.9%
Free cash flow	n.a.	n.a.	n.a.	n.a.	n.a.	-14.1%
Cash flow per share	n.a.	n.a.	n.a.	n.a.	n.a.	-14.1%

Source: Vita 34, First Berlin estimates

**FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY**

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target	Interim high	% change to high
Initial Report	12 July 2007	€12.43	Buy	€20.00	-	-
2...13	↓	↓	↓	↓	↓	↓
14	23 February 2010	€5.44	Buy	€7.80	€5.90	8.5%
15	9 March 2010	€5.20	Buy	€7.80	€5.44	4.6%
16	16 April 2010	€5.30	Buy	€7.80	€5.37	1.3%
17	Today	€4.57	Buy	€7.92	-	-

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**STRONG BUY:** Expected return greater than 50% and a high level of confidence in management's financial guidance

**BUY:** Expected return greater than 25%

**ADD:** Expected return between 0% and 25%

**REDUCE:** Expected negative return between 0% and -15%

**SELL:** Expected negative return greater than -15%

Our risk ratings are Low, Medium, High and Speculative and are determined by ten factors: corporate governance, quality of earnings, management strength, balance sheet and financing risk, competitive position, standard of financial disclosure, regulatory and political uncertainty, company size, free float and other company specific risks. These risk factors are incorporated into our valuation models and are therefore reflected in our price targets. Our models are available upon request to First Berlin clients.

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