

**Buy**

Medical technology

Price: € 4.76

Last rating: Buy

Last analysis:  
13 May 2003

S&P rating: -

Number of shares:  
3.3 million

Market capitalisation:  
€ 15.5 million

Index: Tech All Share

Index weighting: 0,035  
%

Accounting:  
US-GAAP

Calendar: Q3 2003 on  
11 November 2003

DPS 2002: -

ISIN: DE0005659700

Bloomberg: EUZ GR

Reuters: EUZG.DE

Dr. Alexander Burger

**Equity Research**

**Eckert & Ziegler**

13 August 2003

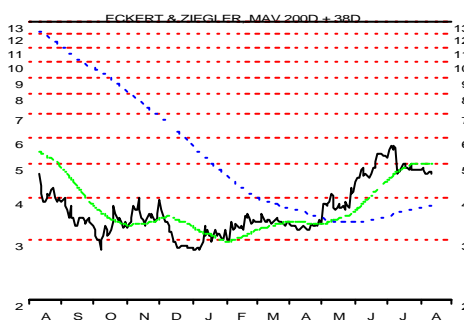
**The operating division is functioning...**

... but special influences are negatively impacting the P&L of the company. Eckert & Ziegler once again had to accept currency-related sales losses, the US-GAAP change SAFS 143 was transferred from the first quarter, the consolidation of NEMOD is still to be dealt with in the second half-year, and NEMOD's losses are not currently acknowledged in terms of tax.

Share Data	EPS current €	EPS previous €	PSR	EV/EBITDA	PER
2002	0,11	0,11	0,5	4,5	44,7
2003e*	0,18	0,30	0,5	5,5	26,8
2004e	0,28	0,44	0,5	5,0	16,9

Company Data	Revenues €m	EBITDA €m	EBIT €m	EBIT-Margin	Net Profit €m
2002	31,2	6,3	2,0	6,4 %	0,3
2003e*	31,0	5,1	1,5	5,0 %	0,6
2004e	32,5	5,6	1,7	5,2 %	0,9

\*without one time exceptionals from SFAS 143 and changes of accounting principles



**Pros and cons at a glance**

- + Globally recognised and established isotope specialist
- + Cooperation with Theragenics
- + Reimbursement of material costs for brachytherapy in Belgium
- + Procedure for cost reimbursement (HTA) underway
- + Product innovations

Landesbank Baden-Württemberg  
Am Hauptbahnhof 2  
70173 Stuttgart  
[www.LBBW.de](http://www.LBBW.de)

- Sales impacted by currency developments
- Special factor SFAS 143 impacting earnings
- Low level of experience in drug development

**Please note the disclaimer on the last page of this report**

**Isotope specialist**

**Solid core business**

**Establishment of Brachytherapy**

**Potential in Immunology**

**No multiple valuation**

**Undervaluation**

### Executive Summary

- Eckert & Ziegler (EZAG) is an internationally active isotope manufacturer based in Berlin. The isotopes are used in industrial, diagnostic and therapeutic fields.
- The company has a stable core business in the Industry and Nuclear Imaging segment, which is heavily influenced by currency fluctuations due to the regional breakdown of sales.
- On this basis, EZAG ventured into the fields of therapy. Considerable successes are already evident in the Brachytherapy segment (short-term radiotherapy with permanent implants). A cooperation with Theragenics ensures additional sales in the short term and avoids otherwise necessary investment in the already mature US market.
- The Immunology segment has potential for EZAG, with products and technologies that are still in comparatively early phases. EZAG is only likely to make progress in their development in collaboration with partners who can guarantee the financing. In the event of the successful development of a therapeutic agent, for example a cancer antibody, EZAG would gain considerable sales potential; however, a market launch would only be possible in six to eight years at the earliest.
- In our view, a valuation of EZAG on the basis of multiples is not practical due to various factors. At companies with comparable business models, no usable database is available or the comparable part only represents a small proportion of the overall business. Our valuation focuses therefore on our DCF model. On this basis, EZAG is still undervalued after the most recent price increases. Despite the factors that are already impacting 2003 and may still have an impact, we anticipate that EZAG will continue to show positive development at operating level and we therefore retain our Buy recommendation for the EZAG share.

### SWOT profile

#### Strengths

- Globally recognised and established isotope specialist
- Cooperation with Theragenics
- Reimbursement of material costs for brachytherapy in Belgium and in some cases in Italy

#### Opportunities

- First mover in the field of brachytherapy in Europe
- Upfront and milestone payments in cooperations
- Cost reimbursements in D and F may be approved in the foreseeable future

#### Weaknesses

- Only little experience so far in drug development
- Brachytherapy as yet not widespread in Europe
- As yet no cost reimbursement for brachytherapy in D and F

#### Threats

- Negative sales and earnings influences while € remains strong
- Development risks – in particular with NEMOD
- Economic environment may negatively impact cost reimbursement decision

Isotope manufacturer for various applications

“Detectors” and PET

Importance of drug-coated stents increasing

Brachytherapy taking off

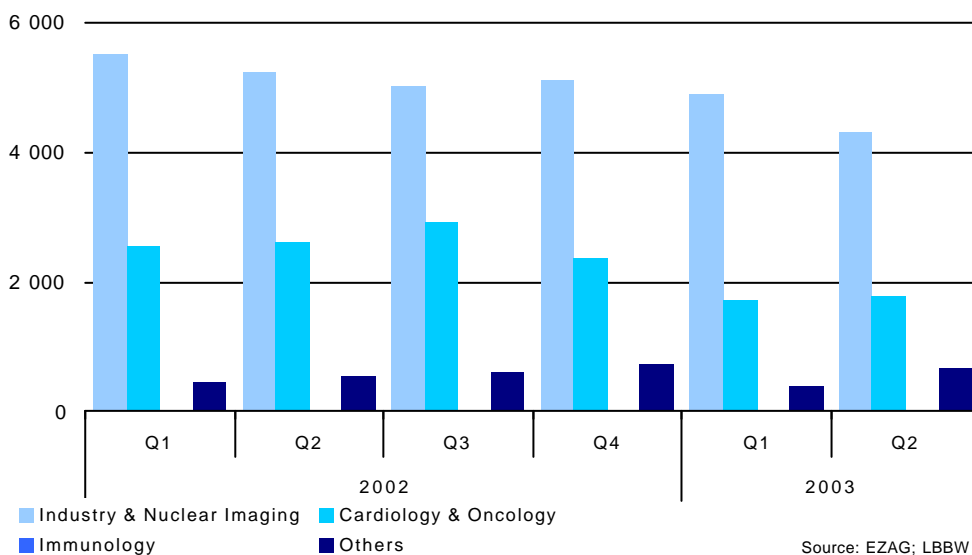
Immunology still in early phase

Cost reductions also through personnel cutbacks

### Business activity

- Eckert & Ziegler (EZAG) is an isotope manufacturer based in Berlin. The company’s products are used in the areas of industry and medicine, for example as sources of radiation for detection devices, but also as therapeutic products in the treatment of cancer (so-called seeds).
- The company operates in the segments of
  - Industry & Nuclear Imaging
  - Cardiology & Oncology
  - Immunology.
- Industrial applications include security and defence technology, for example detection devices used among other things at airports and for which demand has risen dramatically since 11 September 2001. Nuclear Imaging provides sources of radiation used in diagnostic equipment, for example in Positron Emission Tomography (PET).
- In the Cardiology & Oncology segments, the Cardiology business area is becoming increasingly less important. A long time was spent developing radioactive radiation equipment in conjunction with Novoste, which is intended to prevent re-blocking of blood vessels after they have been opened (balloon dilatation). Through the development of drug-coated stents, the radioactive radiation equipment business, which also fulfils this task, suffered a significant setback, which was also reflected in the sales performance at EZAG. The Oncology segment with its seeds – in particular for the treatment of prostate cancer in its early stages – provides further cause for hope, even though it was not so far able to prevent a decline in sales.
- The Immunology segment, which belongs to NEMOD, is based primarily on a technology platform dendritic cell lines as well as on the development of antibodies for carcinoma. This business area has not as yet generated any sales.

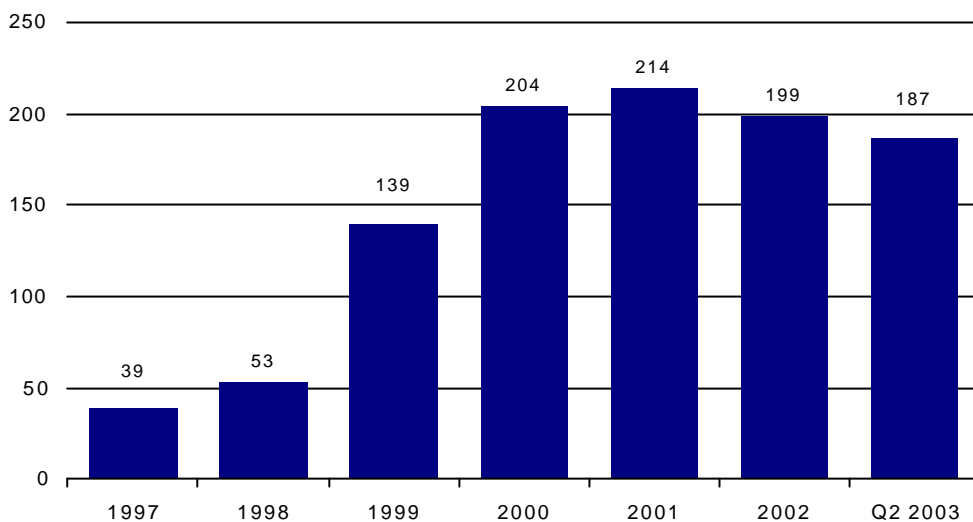
Sales by segment and quarter (€sd.)



- EZAG currently has 187 employees. This does not include the 25 employees at NEMOD, EZAG’s biotechnology participation. The dynamic growth of previous years could not be sustained. However, it is important to note that a considerable

proportion of new employees have joined EZAG as a result of acquisitions, which has meant personnel adjustments were to be expected in the context of the realization of synergies. In addition, personnel adjustments were made against the background of the business development, which was generally weaker than expected at the time of the IPO.

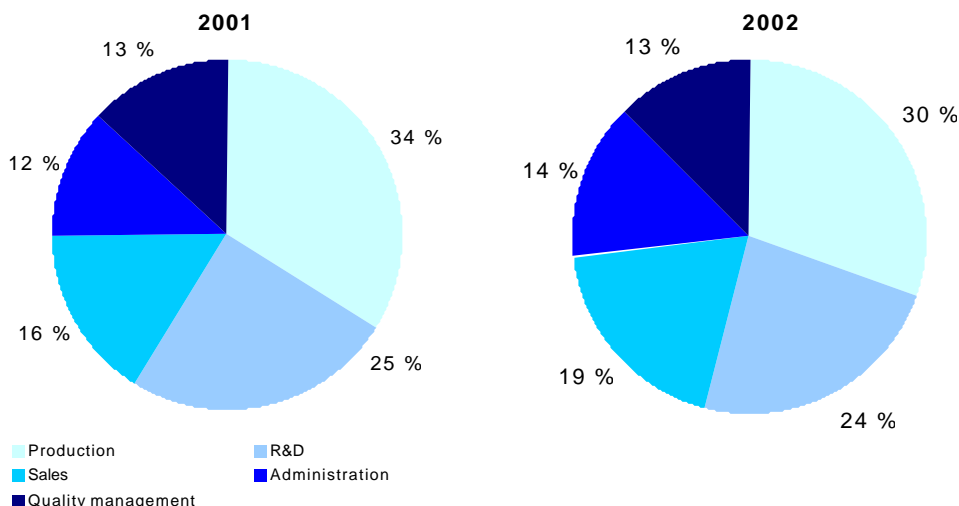
**Staff development**



Source: EZAG; LBBW

**Focus on production**

- The largest proportion of employees work in Production, followed by Research & Development and Sales. If the almost completely research-oriented NEMOD were taken into consideration, the R&D segment would play a dominant role.



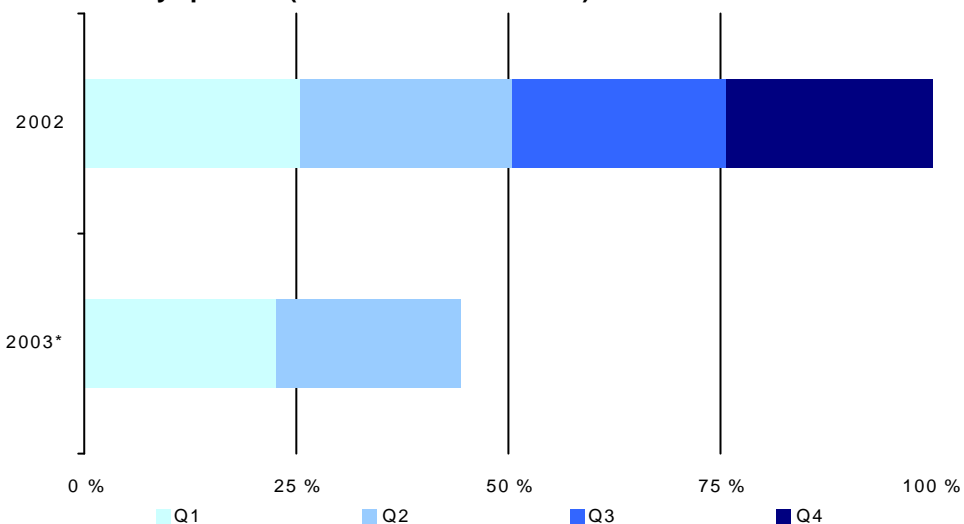
Source: EZAG; LBBW

**Development in the first half of the 2003 financial year (y-o-y)**

- Sales fell by 19.0% to € 12.9 million
- EBITDA rose by 6.0% to € 2.3 million

- EBIT rose by 206.9% to € 0.5 million
- Net earnings before special charges improved by 24.6% to € -0,5 million, including special charges, a decline of € -0.6 million to € -1.2 million is to be posted.
- EPS rose from € -0.19 to € -0.15 (€ -0.38 including special charges )
- Cash position stood at € 8.1 million (€ 8.5 million as at 31 December 2002)

**Turnover by quarter (% of annual turnover)**



Estimated turnover 2003: 31,0 €m

Source: EZAG; LBBW

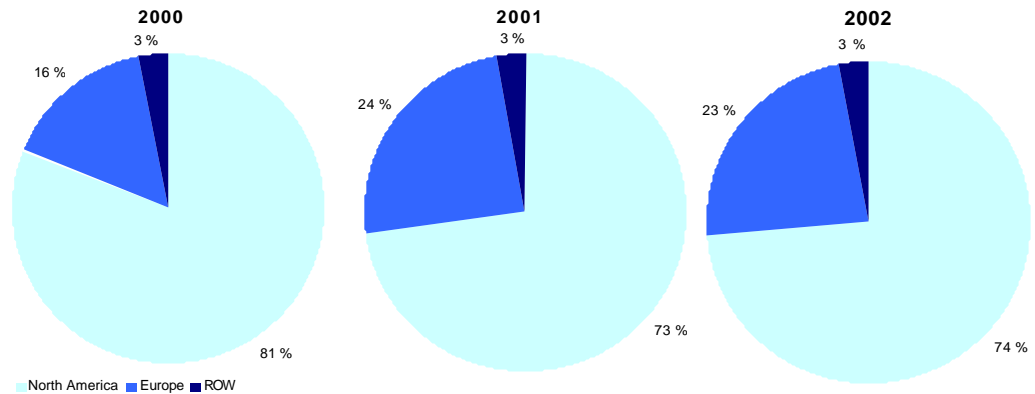
**Negative currency influence**

**Cardiology segment effectively exhausted**

**Sales focus on USA**

- Over the past financial year and also in the first quarter of the current financial year, the strong € had a significant negative impact on sales development in the EZAG Group.
- The nominal decline in sales in Q1 2003 compared with the same quarter of last year was 15%, whereas the decline in sales adjusted for the currency effects was only 4%, which was mainly due to the slump in the Cardiology business area; the second quarter of 2003 also suffered in a similar way.
- The high level of sensitivity of sales to fluctuations of the USD against the € is due to the geographical origin of the sales: for years, North America has had a sales share of well over 70% of total sales.

**Sales by unit sales region**

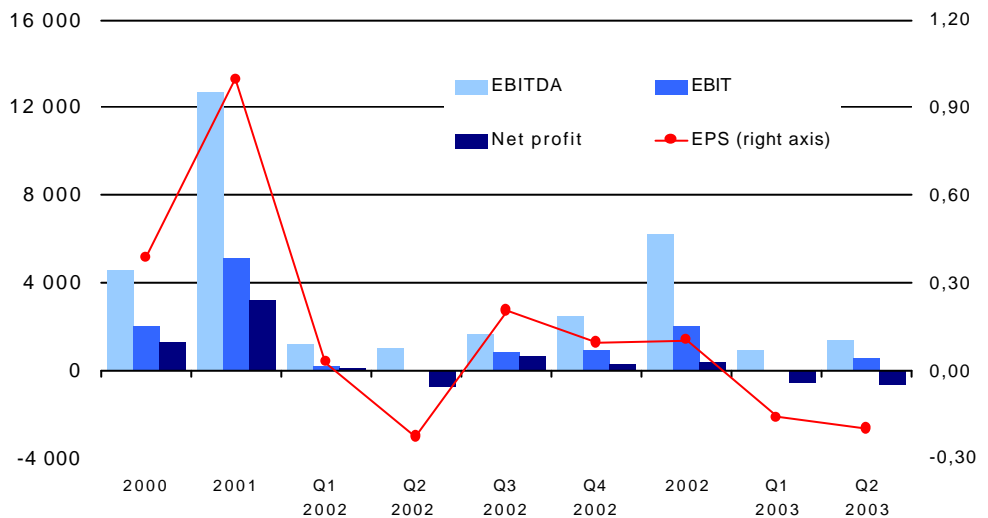


Source: EZAG; LBBW

**Special influences in earnings becoming the norm at EZAG**

- Earnings at EZAG are subject to significantly stronger fluctuations than sales, where a largely equal distribution over the quarters was determined. This is primarily due to special influences, for example, EZAG benefited in 2001 from payments from a legal dispute concluded in EZAG's favour. However, in 2002, this inflow of funds stopped and EZAG began to invest in biotechnology, which had a negative impact on earnings. The development of the exchange rate of the USD against the € was reflected negatively – although to a lesser extent than in sales – in earnings.

**Profits (€sd; EPS in €)**



Source: EZAG; LBBW

**Change in US-GAAP: increase in disposal provisions**

- The first quarter of 2003 was also characterized by the strong €; however, this development declined slightly in the second quarter and therefore played a less important role for EZAG. Moreover, a change in US-GAAP accounting regulations was recorded: as EZAG works with radioactive substances, provisions for disposal have been set up since the beginning. However, now, according to SFAS 143, these provisions are to be set up as though they were to be allocated to a contracted third party. This means for EZAG an increase in the provisions, as disposal has previously been carried out by the company itself at considerably lower cost than by a third party. This changeover is a non-recurrent charge, which also does not impact cash flow.

### Cooperation with Theragenics

### Construction of a production line

### Seed deliveries

### BEGIG granted sales rights for Theragenics products

### Progress and milestone payments as well as product sales

### Innovation IsoCord<sup>®</sup>

### New product: Perflexion<sup>™</sup>

### Positive pre-clinical data for PankoMab<sup>™</sup>

### Generally positive development of liquid funds

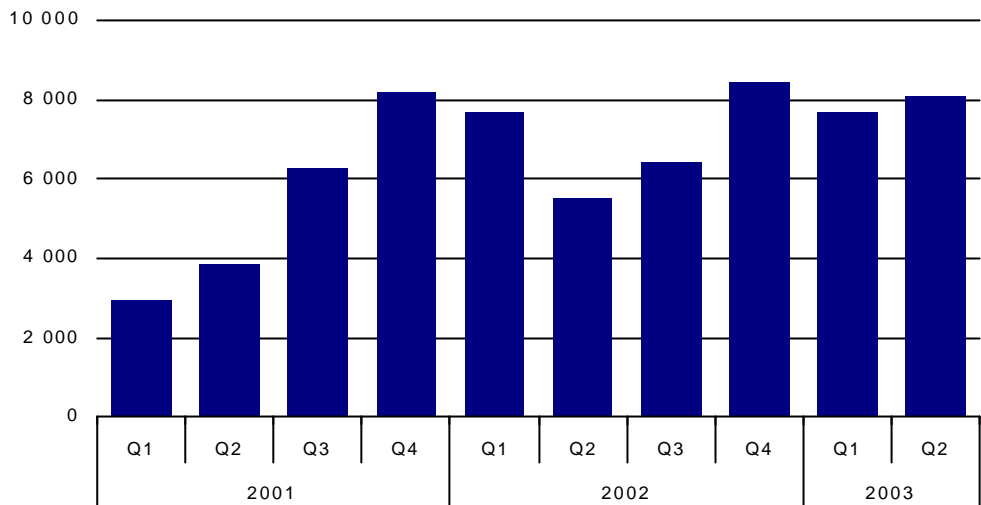
- On 6 February 2003, EZAG announced the conclusion of a cooperation agreement with the US company Theragenics. Theragenics is also involved with the production and sale of weak radioactive implants for brachytherapy treatment of cancer, in particular prostate cancer, but predominantly palladium implants up to now.
  - The agreement with Theragenics covers the construction of a production line for prostate implants (iodine seeds). EZAG has handed over the US business in this segment to Theragenics and, during the establishment phase of the production plant, is supplying iodine-based permanent implants for the treatment of prostate cancer.
  - EZAG subsidiary, BEBIG, in turn is to receive the sales rights to Theragenics products for Europe. The palladium implants round off EZAG's product range in Europe.
  - The cooperation agreement is linked in the short term to progress and milestone payments, of which around USD four million are expected to be made in the course of the current financial year and again approximately USD two million in the next financial year.
- 
- EZAG's product range was rounded off by IsoCord<sup>®</sup>, a seed chain that allows easier application of the seeds at the predefined intervals. EZAG management appears to be extremely satisfied with the level of acceptance of the product by customers.
  - The launch of Perflexion<sup>™</sup> took place without any big announcements. The flexible and light source of radiation offers space and weight advantages over traditional products. In our view, the patented system does not represent a potential blockbuster directly but is a practical addition to the EZAG's sources of radiation range.
  - The Immunology segment, which is concentrated at NEMOD, reported positive biodistribution data for its antibody PankoMab<sup>™</sup> in June. Concrete development partnerships are yet to be determined.
  - The development of the cash position is positive. The "slump" in the second quarter of the previous year is due to the payment of a dividend of € 0.45 per share decided by the Annual General Meeting. The further establishment of brachytherapy also demands financial funds. The biotechnology investments at NEMOD were cut back considerably by focussing within the company, but were retained to a certain extent and thus also cause an outflow of funds. However, the second quarter of the 2003 financial year has shown that, even under poor economic conditions, EZAG is able not only to manage with its liquid funds but was even able to increase them. Of course, the payments from the Theragenics deal play an important role. However, the overall development in the second quarter was impacted by a share redemption programme, whereby EZAG redeemed 320,000 share at a price of € 3.35.



Consistently positive cash flow from operating activity

Various markets

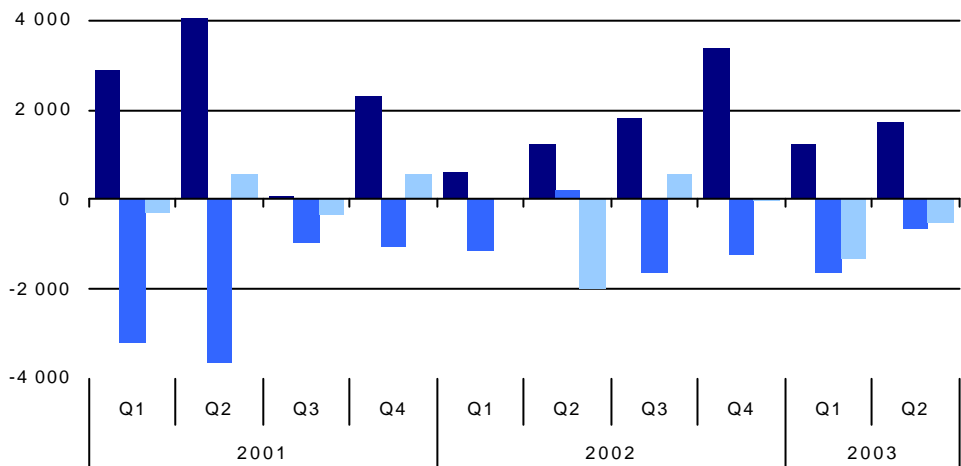
**Cash and cash equivalents (€sd.)**



Source: EZAG; LBBW

- The positive trend with cash volume is also reflected in the cash flow development. In view of the sensitivity of the exchange rate and the hedging transactions concluded by the company, the cash flow from financing activity shows strong volatility in relation to its absolute volume. In our opinion, it is important to stress above all that, over the past ten quarters, the company always managed to generate a positive cash flow from operating activity, i.e. the operating business supports itself and leaves room for investment.

**Cash flows (€sd.)**



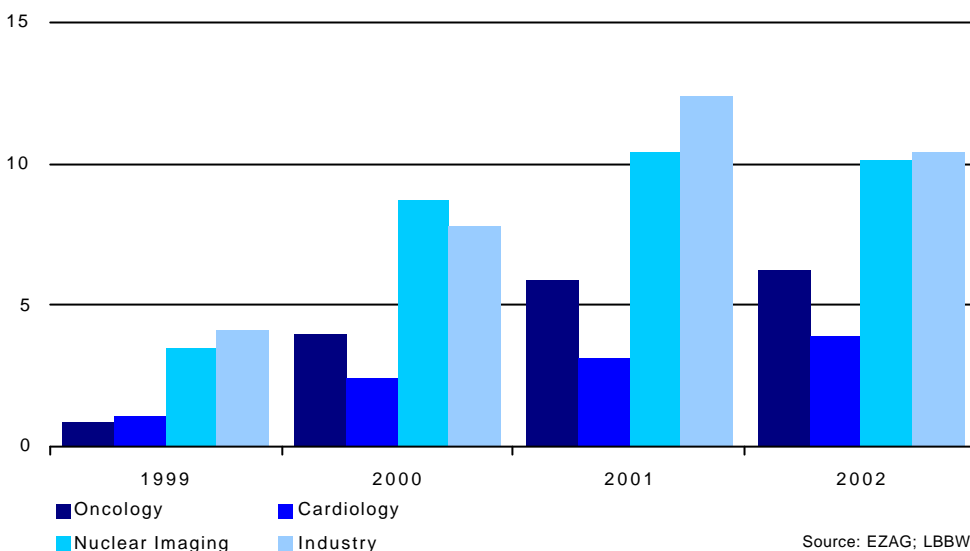
Source: EZAG; LBBW

**The markets of Eckert & Ziegler**

- EZAG operates within a range of different markets with extremely varied volumes and growth rates. The markets are more or less predetermined in an initial step in line with the business areas
  - Industry

- Nuclear Imaging
- Cardiology
- Oncology
- Immunology

**Turnover by segments (€m)**



**Cardiology on the downward slide: strong competition from drug-coated stents**

**Immunology: waiting for cooperations**

**Still a long way off**

- In our opinion, the Cardiology segment has long been on a downward slide. This business area was primarily concerned with the development and production of sources of radiation for oncological applications, i.e. radiation equipment designed to keep blocked blood vessels open and prevent their restenosis by means of radioactive coating. However, the successes of drug-coated stents from Johnson & Johnson and Boston Scientific have prompted the development partner Novoste to largely move away from this field. Negative news on side effects and even incidences of deaths among patients treated with drug-coated stents failed to dampen the success of these products. We believe that EZAG will shortly discontinue its cardiology activities and thus forego a detailed assessment of the relevant market.
- The Immunology segment, which is focussed on the biotechnology company NEMOD, is still not generating any sales. However, it could well be in a position, in the short to medium term, to contribute to the success of EZAG by forming research cooperations to attain milestones. If products are successfully developed to form a marketable drug, product-specific sales are conceivable in the long term, for which the relevant oncology segment would have to be analysed in greater detail. However, the first drug candidate of NEMOD, PankoMab™, is so far still in the pre-clinical stage. Although the biodistribution data in mice were positive, the next step for the development of PankoMab™ is testing on humans. According to current statistics for drug development, the chance of successful development of the drug at the start of clinical trials is only 10% and a market launch, even if the trials are successful at each clinical phase, would be four to six years off. In view of this, we decided not to perform a market assessment for the Immunology segment.

even if successful

Testing and measuring technology products

Small specialist market

11 September 2001 created demand

Exchange rates: negative impact

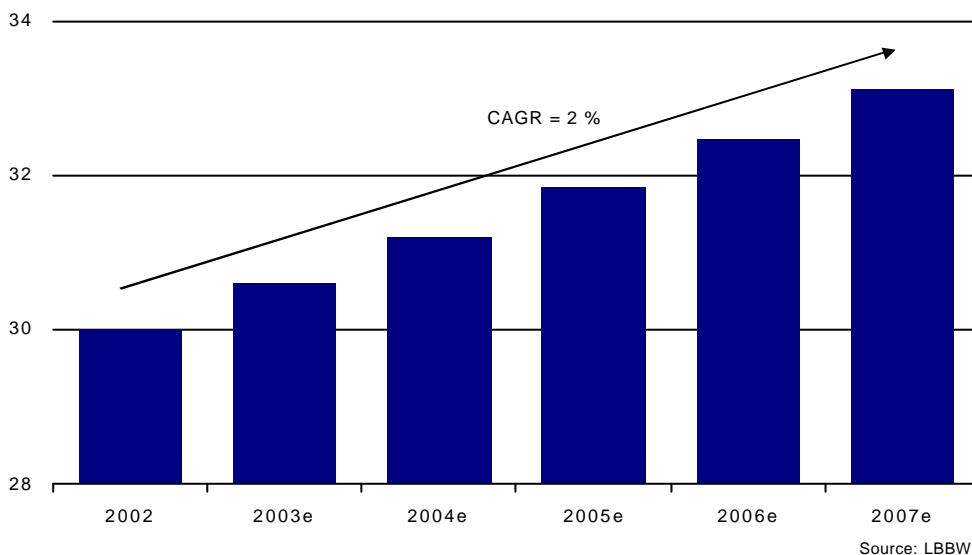
Nuclear Imaging performing positively

PET is "the money spinner"

**Industry**

- The Industry segment is almost the core business of EZAG, providing a major sales contribution. In this segment, the company produces and sells radioactive components for measuring and testing technology equipment manufacturers. Various physical properties, such as thickness, density, lead content etc. can be examined using this equipment. Such "detectors" are used in airports as part of security checks of baggage and passengers.
- The market for these sources of radiation is somewhat of a small specialist market. However, due to the applications of the appliances fitted with EZAG radiation sources, the market for radiation sources is exposed to economic factors.
- Despite its negative economic impact, 11 September 2001 boosted sales in the market for industrial sources of radiation, as security procedures were stepped up in many airports as a result of the attacks, requiring the sale of large quantities of initial equipment (also leading to the sale of replacement parts).

**World market for industrial sources of radiation (€m)**



- For producers such as EZAG, preparing their balance sheets in € and with a market assessment produced in €, this positive effect for the market and manufacturers is offset by the development of the USD/€ exchange rate. In view of this, we are retaining our estimate of a market volume of € 30 million, with average growth of 2 % p. a. According to company information, the market share of EZAG comprises around one third of the overall market.

**Nuclear Imaging**

- According to the categorisation in the company's segment reporting, Nuclear Imaging is also part of the core business of EZAG. During the last financial year, Nuclear Imaging even almost caught up with the Industry business in terms of the sales attained.
- In this segment, EZAG provides calibration and reference radiation equipment for gamma cameras and positron emission tomography (PET). PET is increasingly

spinner”

Initial equipment business regularly followed by replacement parts business

Small market for Perflexion™

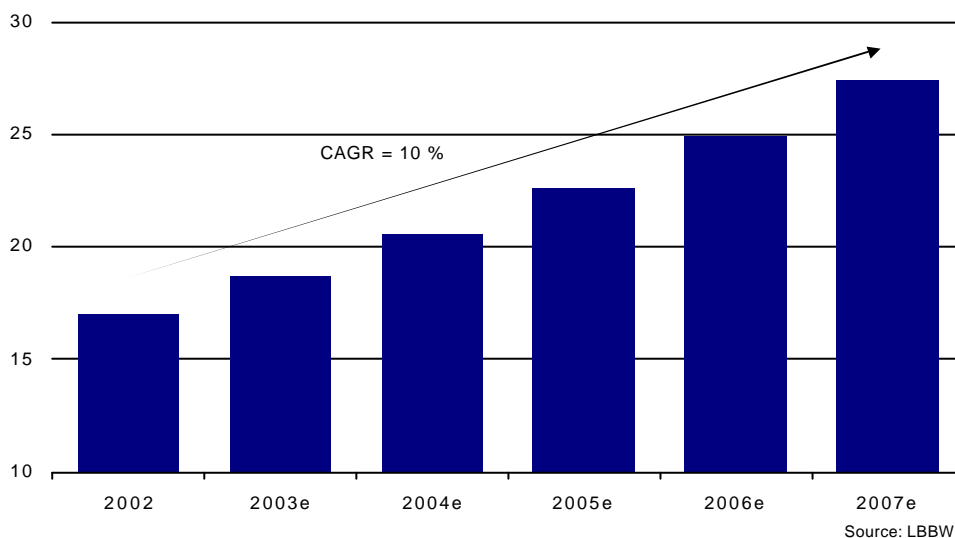
Success breeds success

Small sub-market with presentable growth

used in diagnostics and the number of diseases it can diagnose is continuing to rise. In the USA, PET is proving to be a success story; in Germany, however, the statutory insurance companies are refusing to reimburse this high-quality but expensive diagnostic instrument. In other European countries, most insurance companies only reimburse the use of PET for individual diagnoses.

- The market is determined not only by initial equipment business, but also replacement parts business, as the sources or radiation regularly have to be replaced. Despite a slight decline in sales in this segment in 2002 compared to 2001, we still expect high growth. In our opinion, the development of sales is heavily impacted by exchange rate changes. The development of the exchange rate is also responsible for the reduced market volume compared to our company analysis of last year. According to company information, the market share of EZAG is around 60%.
- We have already indicated that EZAG is venturing into a new business area with the Perflexion™ product innovations. There are no detailed figures for this as yet very small market.

**World market sources of radiation for Nuclear Imaging (€m)**



- In our opinion, the existing reimbursement of costs, the acceptance of methods on the part of doctors and patients and the quality and variability of diagnoses, which are increasingly being extended to include new indications, such as cancer, heart diseases or Alzheimer’s, suggest continued high growth in the Nuclear Imaging market.
- The market for the sources of radiation is a rather small market in terms of volume, although it is likely to grow more strongly than the Nuclear Imaging market as a whole, due to the new and regular replacement business. We expect annual growth of 10%. However, changes in the exchange rate between USD and € may distort this assessment.

**Oncology**

- Cancer is one of the “biggest” indications in the Healthcare segment. We estimate

**Cancer as the  
"biggest indication"**

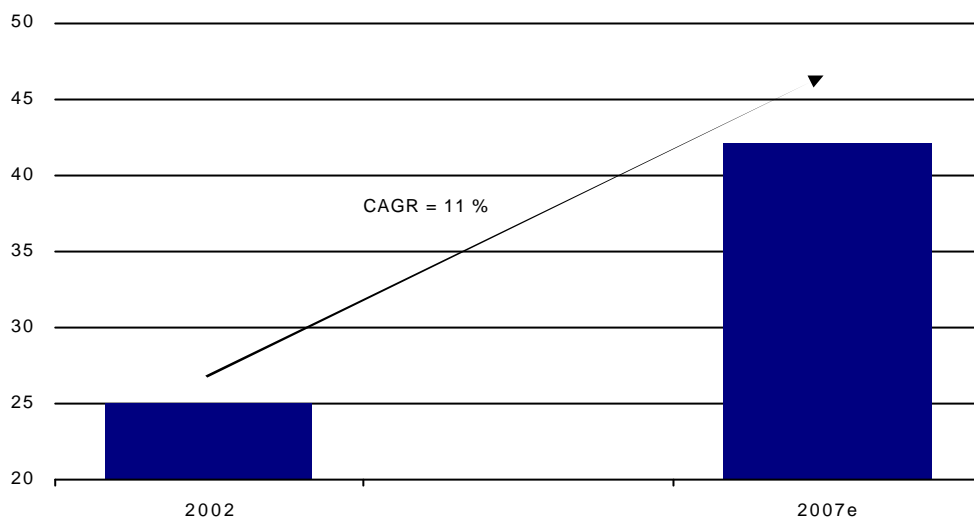
**Focus on brachy-  
therapy for prostate  
cancer**

**Brachytherapy only  
appropriate for T1  
and T2 tumours**

the world market volume at around USD 25 billion. According to our estimates, average annual growth is 11 %.

- This assessment of the market as a whole is of minor concern to EZAG at present. The company is focussing on a specialist field within oncology, brachytherapy for the early stages of prostate cancer.

**World market cancer therapeutics (USDbn)**



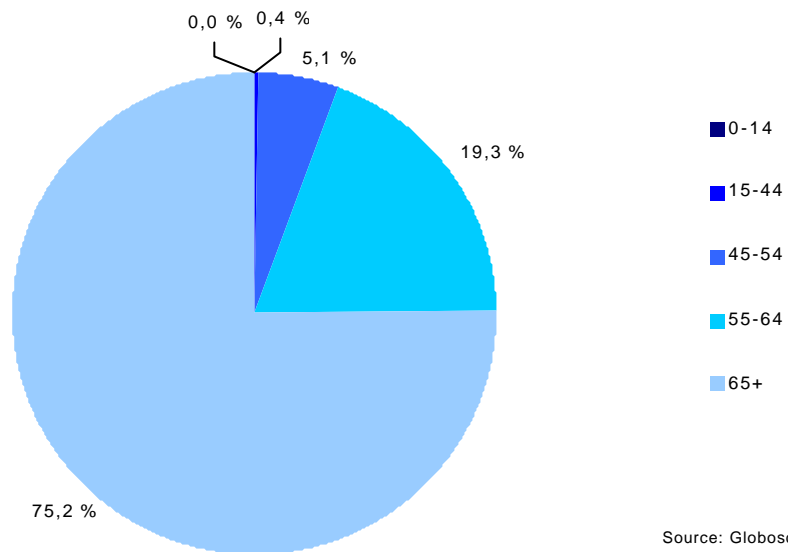
Source: LBBW

- Prostate cancer is the second most common cause of death in Germany in terms of organ-related cancer types. If a tumour is detected early, treatment with brachytherapy is generally possible: the tumour is small, no fusion with the surrounding tissue has taken place, and no metastases have formed as yet (so-called T1 or T2 tumours). Larger tumours, fusions or metastases (T3 and T4) can no longer be treated with brachytherapy, however. Surgery and chemotherapy treatment are then required.
- An assessment of the ages of patients shows that prostate cancer is generally a typical geriatric disease, with rarer incidences among younger men.

Permanent implan-  
tation of radioactive  
pins

Minimum invasive  
procedure with  
comparatively  
reduced side effects

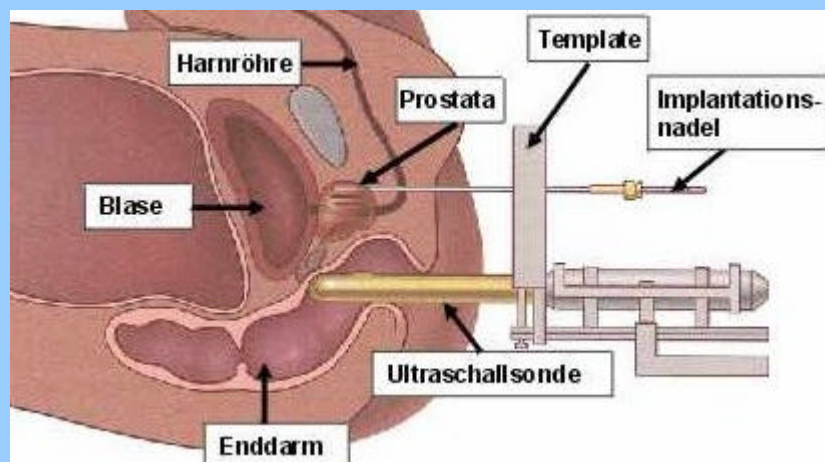
**Incidence of prostate cancer by age**



Source: Globoscan; LBBW

**Principles of prostate brachytherapy**

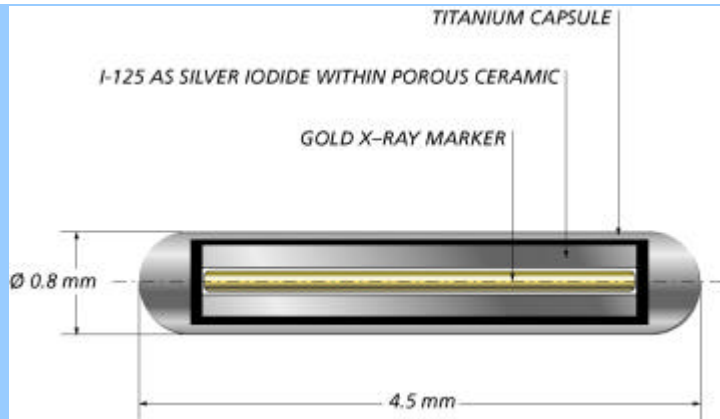
- Prostate brachytherapy is a one-off and permanent implantation of small radioactive pins, known as seeds, in the diseased area of the prostate. It is only used for local tumours in their early stages. Iodine<sup>125</sup> seeds or palladium<sup>103</sup> seeds are used as the sources of radiation. This form of brachytherapy comes under the term of low dose rate (LDR) therapy, as opposed to temporary high dose rate (HDR) radiation with iridium<sup>192</sup>. We will limit our assessment to LDR therapy
- The actual therapy consists of the ultrasound-based insertion of the seeds into the prostate using a cannula. The seeds radiate locally and for a limited period of time and kill the cancer cells, while only damaging a minimal part of the surrounding healthy tissue. They remain permanently in the prostate. This is a minimum invasive procedure that can be performed in outpatients. The success rates are high and the side effects are considerably reduced compared to those of other treatment methods, such as prostatectomy, i.e. the removal of the prostate.



Source: [http://www.uro-koeln.de/Brachytherapie/body\\_brachytherapie.html](http://www.uro-koeln.de/Brachytherapie/body_brachytherapie.html)

Higher survival rate

- The advantages of a LDR seed therapy are evident from the absence of a tumour after five years in patients of various risk categories.



Source: EZAG

**5-years without tumor**

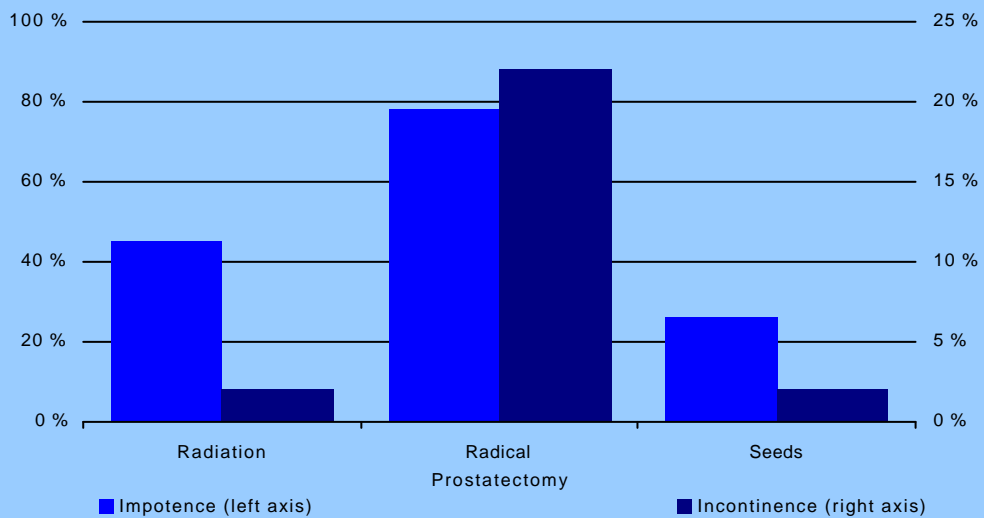
	Radical prostatectomy	3D-conformal radiation	Seeds	Seeds & external radiation
<b>risk</b>				
<b>low</b>	85 %	95 %	94 %	94 %
<b>average</b>	65 %	79 %	82 %	84 %
<b>high</b>	32 %	60 %	65 %	69 %

Source: <http://www.urologie-vaterstetten.de/images/hp1.pdf>

Considerably reduced side effects

- Side effects – in many cases incontinence and impotence - play a particularly crucial role in the quality of life of a patient after treatment. These risks can be considerably reduced if the prostate cancer is detected early and treated with LDR brachytherapy.

**Side effects (% of patients)**



Source: <http://www.urologie-vaterstetten.de/images/hp1.pdf>;

- Further information on prostate cancer and how it can be treated can be found on the homepage of the EZAG subsidiary BEBIG [www.bebig.de](http://www.bebig.de)

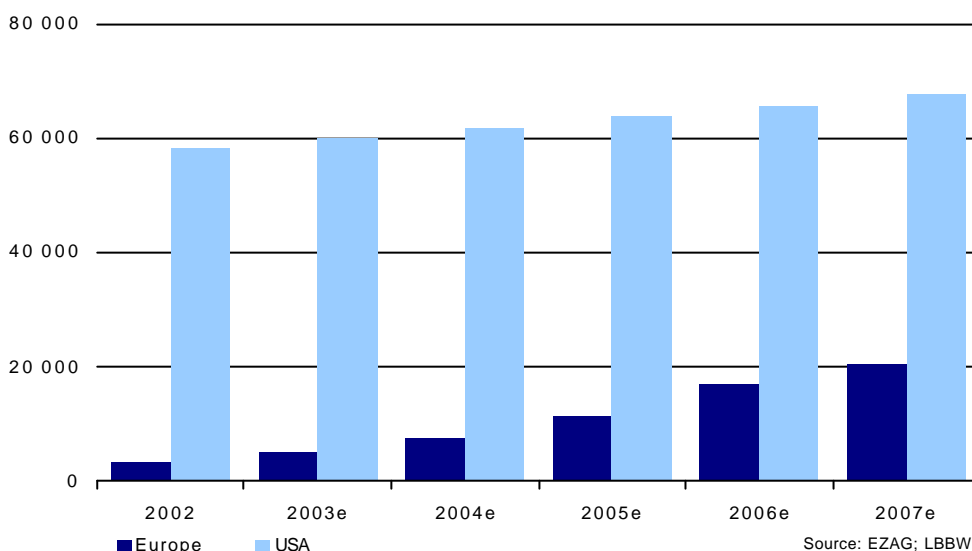
**Early detection is crucial**

- As the cancer must be in the early stages in order for brachytherapy to be considered, early detection is particularly important. The use of early detection examinations for prostate cancer is widespread in the USA. Tumours are thus detected at an early stage and minimum invasive brachytherapy is an option. The number of applications of brachytherapy for prostate cancer has quadrupled in the USA since it was introduced. The number of cases is now high, and we only expect further growth in the number of cases of 3% p.a., largely generated by demographic changes.

**Screening still underdeveloped in Europe**

- In Europe on the other hand, the starting base for the development of brachytherapy for prostate cancer is extremely lower. On average, only one in six men are screened. We believe annual growth of 50% is realistic between now and 2006, after which point growth is likely to taper off to 20%.

**Cases**



**US market only of minor interest to EZAG**

- However, due to the cooperation agreement with Theragenics, the American market is only of minor interest to EZAG. The company is focussing on the as yet considerably smaller, but higher-growth European market.

- The fact that the development of brachytherapy in Europe and therefore the oncology segment of EZAG has so far fallen below expectations was largely out of the hands of EZAG.

**Decisions on cost reimbursement postponed**

- In France, for example, the decision to reimburse the costs of brachytherapy for the treatment of prostate cancer was postponed due to the elections. In Germany, there is a DRG code (Diagnosis Related Groups, i.e. flat rate per case) for invoicing in hospital, but there is a long transition period for the introduction of the DRGs. In addition, this does not take into account the advantage of brachytherapy that it is a form of treatment particularly suited to outpatients. LDR brachytherapy is not explicitly mentioned in the currently highly controversial EBM 2000plus point values catalogue. However, the EBM 2000plus does have an opening clause for outpatients, whereby patients can apply for reimbursement of costs in line with the point value attributed to the standard therapy, but have a free choice of the actual form of treatment. A partial reimbursement of costs at least would therefore be possible for LDR brachytherapy. Any additional costs for patients would then be

**Hope from EBM 2000plus: opening**



**clause for  
outpatients****Support for  
outpatient  
procedures and HTA  
could boost brachy-  
therapy****Partial  
reimbursement of  
costs in other  
European countries**

offset by the reduced side effects.

- If the health reform currently due to be passed in Germany also provides the planned support for outpatient procedures, this could boost brachytherapy, but this is not directly linked to a regulated cost reimbursement procedure. A Health Technology Assessment (HTA) procedure is currently in progress to achieve this. The necessary documents were submitted by EZAG in June 2002, but the company does not expect a decision until 2004 at the earliest. The actual reimbursement may then take a further few months, as the decision will still have to be published by the Bundesausschuss der Krankenkassen (German Federal Council of Health Insurance Companies).
- In Belgium, reimbursement of material costs has so far been achieved, while in Austria the procedure is reimbursement at least in part according to a type of flat rate per case and a partial reimbursement of costs at least has so far been attained in some regions of Italy.

**Economic factors**

**Considerable sensitivity to exchange rates**

**Cooperation with Theragenics also had little impact on the USA as a focus of sales**

**Bottom line less affected by production in the USA and currency hedging**

**Internal financing causes book losses as the € exchange rate increases**

**Need for increased security**

**Outlook**

- EZAG is a company that to a certain extent is exposed to economic risks, but is also able to benefit from some of these, as in the case of developments following September 11 2001.
- In our view, however, exchange rate developments are more significant to the performance of the company, in terms of figures. We have already mentioned that EZAG generates around three quarters of its sales in the USA. The sales booked in USD are correspondingly high, but these then have to be translated according to the exchange rate when preparing the balance sheet in €. Over the last financial year, 2002, the strength of the euro cost the company around € 1.5 million sales in terms of book values.
- The high share of USD sales is being reduced firstly by the increased efforts of the company to position itself better in Europe, particularly in the oncology segment. The market protection agreement with Theragenics, whereby EZAG will in future concentrate on Europe with its seeds while Theragenics plans to continue operations in North America, is also helping to boost sales in the euro zone. Secondly, EZAG is acting as the supplier of seeds to Theragenics in the interim until the ordered production line is installed in the USA and is operational. This is again generating a short-term increase in sales in North America. In addition to this, there are other payments from Theragenics to EZAG, such as those for the production plant. Furthermore, the Nuclear Imaging segment will benefit not only from an increase in initial equipment requirements, particularly in the case of PET equipment, but also from the demand for replacement sources of radiation for this equipment. In view of the fact that PET is particularly successful in North America (PET diagnoses are not reimbursed by the statutory health insurance companies in Germany), it is to be expected that this effect will keep the share of USD sales in overall sales at a high level.
- The top line development of EZAG will continue to be heavily impacted by exchange rate developments in future. The effect of exchange rate changes at bottom line level is not so marked, firstly because the production sites are in the USA and fluctuations in exchange rates can thus be partially compensated. Secondly, EZAG performs currency hedges.
- The current structure of internal financing is certainly negatively impacting the profit and loss account. EZAG has granted a loan to its US subsidiary IPL. Write-downs are increasingly necessary in the wake of exchange rate changes in favour of the euro; these write-downs negatively impact the balance sheet and profit and loss account prepared in €. Changes to internal financing, such as a conversion of the loan to shareholders' equity, are envisaged, but have not yet been resolved in a concrete form; these could again benefit EZAG, especially in the event of a reversal of exchange rate movements as seen since around start of the third quarter. The same applies to a theoretical conversion to balance sheet reporting in USD.

**Industry and Nuclear Imaging**

- In the Industry segment, EZAG is still benefiting from an increased awareness of and need for security following 11 September 2001. New "detectors" installed in airports require a source of radiation for initial equipment, and this has to be replaced on average every 14 months, which also means subsequent business for EZAG. Research into the substitution of radioactive sources of radiation with other

**No real alternatives to date**

**Major customer has solved its problems**

**PET booming, boosting the demand for sources of radiation**

**Cardiology likely to have little future at EZAG**

**Oncology could become the top segment**

**Cost reimbursement could provide a boost**

**Increasing private clientele**

**Huge opportunities, high risks**

**Dendritic cell lines as technology platform**

technologies is currently still insufficiently advanced to determine the specifics of the competitive situation for the Industry segment.

- In the Nuclear Imaging segment, a major customer of EZAG experienced quality problems with its equipment during the last financial year and therefore imposed a delivery ban on its products. This also affected EZAG as the supplier of the radioactive sources of radiation, although these had nothing to do with the customer's quality problems. The customer has since solved its problems and lifted the delivery ban, as a result of which EZAG continues to act as supplier just as before.
- Overall, EZAG is likely to particularly benefit from the boom in positron emission tomography (PET) in the USA, where there is widespread use of this diagnostic procedure. The number of units installed is high, thereby securing the demand for replacement sources of radiation. EZAG itself expects growth of 50% here, as in the previous year. Further developments of products, further dissemination of this procedure as a result of lower product prices and a steady increase in application possibilities are likely to produce an increase in the number of units installed.

#### **Cardiology and Oncology**

- We have already indicated that the Cardiology segment of EZAG suffered from the new competition from drug-coated stents in the past. Even though small acceptance quantities have been agreed for Novoste and the EZAG partner also develops radioactive sources of radiation for peripheral vessels, we see no future for the Cardiology segment on the basis of the current situation.
- The Oncology segment on the other hand is, in our opinion, set to become the "growth star" of EZAG in the short to medium term. The cooperation with Theragenics is now producing an increase in sales from the USA, although this will disappear once Theragenics commissions its production line. However, assuming that a decision has been reached on the reimbursement of costs for brachytherapy by the end of the next financial year in the main European markets, Germany and France, we believe that there is a good chance that the lack of USA sales can be at least offset by additional sales in European countries. So far only Belgium, one of the smaller countries, has decided to reimburse the material costs for brachytherapy. The same could happen in Germany following the current discussions concerning a health reform. Although this would not cover the full treatment costs, patients are increasingly used to contributing to healthcare, and with the reduced side effects of brachytherapy to which we have already alluded, the decision to opt for this form of treatment is not likely to trouble many patients, despite the remaining share of costs they would have to bear.

#### **Immunology**

- Huge opportunities could be derived from the Immunology segment, which centres on NEMOD, in the medium to long term, although these are offset by significant risks due to the early development stage of most products.
- NEMOD has a technology platform with which dendritic cells can be made available "off-the-shelf". In this context, a preliminary agreement for an initial cooperation was concluded with Fresenius Hemocare last year. Tests for a treatment of a renal cell carcinoma were to be performed using dendritic cells. In

### PankoMab™ focus of R&D

### Nemod to be consolidated from July 2003

### Negative impact from the conversion of accounting regulations

### Further developments in biotechnology field in principle subject to partners

### Phase I at own expense conceivable

### DCF model according to entity method

the meantime, however, Fresenius has restructured the Group and Fresenius Hemocare has been incorporated into the other segments of Fresenius. At present, EZAG does not expect the project to be developed or continued any further, even though Fresenius has not disregarded oncology.

- In the therapeutic field, NEMOD is developing antibodies to be used in the treatment of cancers. The antibody PankoMab™ is currently the focus of R&D activities. Promising biodistribution data in mice are available for this antibody. However, the next step is to get this data for humans. This and the subsequent clinical trial phases could yet prove to be something of a stumbling block to further development.
- EZAG will fully consolidate NEMOD as from July 2003. We have so far assumed that this will only produce a shift within the cost structure of EZAG, as EZAG already posts the result of NEMOD as R&D expenditure. However, according to the management the auditors of EZAG are now of the opinion that EZAG must then also post the negative shareholders' equity of NEMOD under its results. The result of this is that a loss from changes to accounting principles of around € 1 million has been incurred during this financial year, although as in the case of the non-recurrent expenses from SFAS 143, these are not cash-effective; neither do they reduce the tax charge. If the negative shareholders' equity of NEMOD were to be reversed over the coming years, EZAG would have to make an addition, which again would not be cash- or tax-effective.
- According to the EZAG management, a long-term further development of dendritic cell lines and the antibody is only planned subject to securing a financially strong partner. This plan is easy to implement, as EZAG has an impressive cash position for a company of its size and core business. Nevertheless, these resources would not be sufficient for EZAG to fund the clinical development of therapeutic agents from its own pocket.
- In the short term, it would be conceivable for the management of EZAG, if it does not find a cooperation partner, to go ahead with clinical phase I of the antibody PankoMab™ at its own expense. Assuming the outcome was successful, it could then be easier to find partners for a subsequent further development and increase the value of the product when it comes to licensing it out.

### Valuation

- We perform a DCF analysis according to the entity method for Eckert & Ziegler. Within this, we work on the basis of a detailed five-year plan, a competitor-based phase - also five years - and the subsequent terminal value.

Fair value according to DCF: € 8.76

Sensitivity analysis shows sensitivity to fluctuations

**Calculation base**

Capital structure (goal; EK:FK)	60:40
Risk-free interest rate	5,0 %
Risk premium	6,0 %
Beta	2,0
Company's premium	2,5 %
WACC	10,6 %

**Value driver (Phase II; % of turnover)**

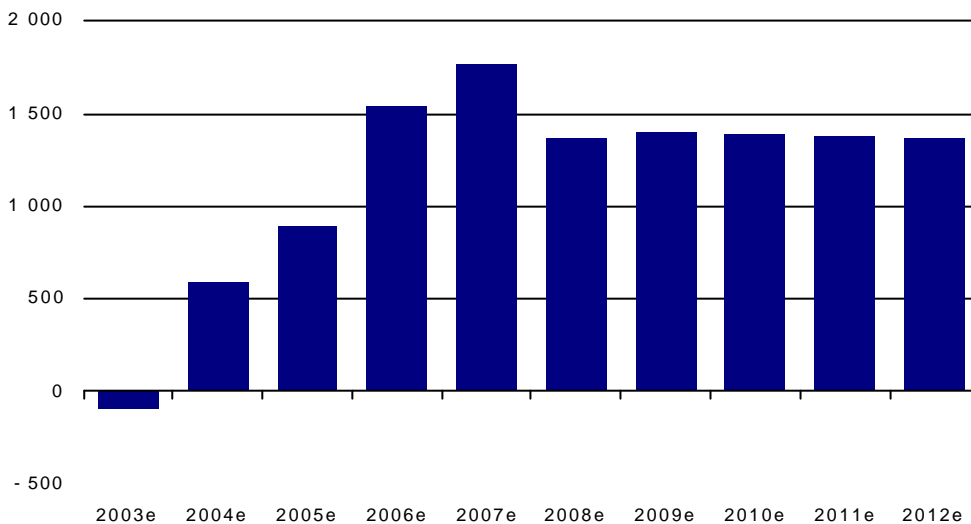
Turnover growth	10,0 %
EBIT-margin	10,0 %
Tax rate	40,0 %
Accrual rate	6,0 %
Depreciation rate	12,0 %
Investment rate	12,0 %
Working capital rate*	20,0 %
Sustainable growth	1,0 %

\*Declining in time

Source: LBBW

- On the basis of this calculation base, a free cash flow according to the model below is obtained, producing a shareholders' equity value of € 28.5 million or € 8.76 per share.

**Free cash flow (€sd.)**



Source: LBBW

- Due to their structure, DCF models are dependent on the assumptions on which they are based. To demonstrate this for EZAG, we will perform a sensitivity analysis. The aim is to show the extent to which the enterprise value fluctuates if two parameters of the model, namely the assumed discounting rate and the assumed growth rate of government perpetuals, are altered.

Multiple valuation inappropriate: no reference data

Other business models are not comparable

Overall valuation based on DCF

**Sensitivity analysis**

Value of equity (€m)				Value of equity per share (€)			
Discounting rate				Discounting rate			
Growth	11,0 %	12,0 %	13,0 %	Growth	11,0 %	12,0 %	13,0 %
0,0 %	29,6	27,4	24,6	0,0 %	9,10	8,45	7,56
1,0 %	30,9	28,5	25,4	1,0 %	9,51	8,76	7,81
2,0 %	32,6	29,7	26,3	2,0 %	10,02	9,15	8,10

Source: LBBW

- In our opinion, a multiple valuation is not particularly appropriate for EZAG at present. There are no usable figures for companies that would be comparable in terms of their business model, thereby facilitating a multiple analysis. Major competitors such as Amersham that are also involved in the seed business are hardly suitable for a meaningful comparison either, as the seeds only comprise a small part of their overall business and their valuation is affected by many other commercial activities.

Company	Currency	Price	EPS		PER		EV	EBITDA		EV/EBITDA	
			03e	04e	03e	04e		03e	04e	03e	04e
Amersham	GBP/P	510,75	22,00	28,78	23,2	17,7	3550,5	387,2	451,8	9,2	7,9
IBT	€	3,85	n.v.	n.v.	n.v.	n.v.	20,8	n.v.	n.v.	n.v.	n.v.
Novoste	USD	4,50	0,26	0,26	17,3	17,3	41,8	n.v.	n.v.	n.v.	n.v.
Theragenics	USD	4,28	0,20	0,30	n.v.	n.v.	58,3	n.v.	n.v.	n.v.	n.v.

Source: Bloomberg; LBBW

- Other medical technology companies, listed either in Germany or abroad, often have completely different business models, making them also unsuitable for any meaningful comparison. In our opinion, the immunology activities of EZAG are still at too early a stage for a comparison with biotechnology companies. They do not even provide sales contributions that would be calculable on the basis of their price/sales or EV/sales ratios.
- Our overall valuation is therefore based on the DCF analysis in this case, from which the following key ratios are obtained for EZAG.

	Currency	Price	EPS*		PER		EV	EBITDA		EV/EBITDA	
			03e	04e	03e	04e		03e	04e	03e	04e
Eckert & Ziegler (current)	€	4,76	0,18	0,28	26,76	16,9	10,98	5,11	5,63	2,1	2,0
Eckert & Ziegler (as if)	€	8,76	0,18	0,28	49,3	31,1	23,5	5,1	5,6	4,6	4,2

\*without exceptionals

Source: LBBW

**Recommendation**

- Eckert & Ziegler is a company that will alarm anyone taking a quick glance at the

**Operating division is functioning****Special influences are almost the norm****Uncertainty about the Biotechnology segment of the company must be resolved****Buy**

figures. However, a more in-depth analysis will show that the operating division is by no means a cause for concern, but is performing well under difficult circumstances.

- Special influences are indeed almost a part of everyday life at Eckert & Ziegler and there is undoubtedly a certain amount of work that is required, particularly on the part of private investors, to get to the bottom of these. For example, tax issues relating to the offsetting of NEMOD losses at Eckert & Ziegler caused us to reduce our earnings forecasts.
- Even if a multiple comparison is impracticable and a DCF model always entails uncertainties, we believe there is still considerable price potential at the current price level. In our opinion, possible cooperations in the Biotechnology segment could contribute to the realisation of this potential, as could a possible announcement by EZAG of plans to start a phase I study of PankoMab™ at its own expense. The latter would indeed mean additional expenses, although these would not be disproportionate in our opinion and if the phase I study is concluded successfully, they would be redeemed through the correspondingly higher payments on account of a then absolutely essential development partner. In any case, the uncertainty surrounding the future development of the commitment of EZAG to biotechnology if not dispelled would certainly be significantly reduced.
- In view of the situation we have described, we believe that the chances of a further price rise outweigh the risks of stagnation or even a decline. We therefore reiterate our buy recommendation for the EZAG share for the investor willing to take a calculated risk.

## Balance sheet

Balance Sheet	2000	2001	2002	2003e	2004e
€m					
Current assets	16,8	18,1	17,6	18,1	21,9
Fixed assets	33,7	35,0	32,1	31,1	29,4
<b>Assets</b>	<b>50,5</b>	<b>53,1</b>	<b>49,7</b>	<b>49,2</b>	<b>51,3</b>
Short term liabilities	7,6	8,4	6,6	6,4	7,1
Long term liabilities	10,6	8,8	10,2	12,0	12,5
Equity	32,3	35,8	32,9	30,8	31,7
<b>Equity and liabilities</b>	<b>50,5</b>	<b>53,1</b>	<b>49,7</b>	<b>49,2</b>	<b>51,3</b>

Source: Eckert &amp; Ziegler AG, LBBW

## Profit and loss account

Profit and Loss Account	2000	2001	2002	2003e	2004e
€m					
<b>Turnover</b>	<b>23,6</b>	<b>32,8</b>	<b>31,2</b>	<b>31,0</b>	<b>32,5</b>
Cost of sales	-14,2	-18,8	-16,0	-17,5	-18,2
<b>Gross profit</b>	<b>9,4</b>	<b>14,0</b>	<b>15,3</b>	<b>13,5</b>	<b>14,3</b>
Sales and administrative expenses	-7,1	-10,6	-11,3	-10,7	-11,3
Research & Development	-0,4	-0,9	-3,4	-1,2	-1,3
Other operating income/expenses	0,2	3,1	1,4	0,0	0,0
Goodwill-amortisation	0,0	-0,6	0,0	0,0	0,0
<b>EBITDA</b>	<b>4,6</b>	<b>12,7</b>	<b>6,3</b>	<b>5,1</b>	<b>5,6</b>
Margin	19,5 %	38,6 %	20,0 %	16,5 %	17,3 %
Depreciation	-2,6	-7,6	-4,3	-3,6	-3,9
<b>EBIT</b>	<b>2,0</b>	<b>5,1</b>	<b>2,0</b>	<b>1,5</b>	<b>1,7</b>
Margin	8,7 %	15,5 %	6,4 %	5,0 %	5,2 %
Financial result	0,5	0,1	-1,1	0,2	-0,2
<b>EBT</b>	<b>2,5</b>	<b>5,2</b>	<b>0,9</b>	<b>1,8</b>	<b>1,5</b>
Margin	10,6 %	15,8 %	2,9 %	5,7 %	4,7 %
Income taxes	-1,3	-2,0	-0,6	-1,2	-0,6
<b>EAT</b>	<b>1,3</b>	<b>3,2</b>	<b>0,3</b>	<b>0,6</b>	<b>0,9</b>
Margin	5,3 %	9,9 %	1,1 %	1,9 %	2,8 %
Minorities	0,0	0,0	0,0	-1674,0	0,0
<b>Net profit*</b>	<b>1,3</b>	<b>3,2</b>	<b>0,3</b>	<b>0,6</b>	<b>0,9</b>
Margin	5,3 %	9,9 %	1,1 %	-3,5 %	2,8 %
<b>Net profit after SFAS 143</b>	-	-	-	<b>-0,1</b>	-
Margin	-	-	-	neg.	-
<b>Net profit after changes of accounting principles</b>	-	-	-	<b>-0,6</b>	-
Margin	-	-	-	neg.	-
<b>Net profit after SFAS 143 and changes of accounting principles</b>	-	-	-	<b>-1,3</b>	-
Margin	-	-	-	neg.	-

Source: Eckert &amp; Ziegler AG, LBBW

## Share data

Share Data	2000	2001	2002	2003e	2004e
EPS (€)*	0,39	1,00	0,11	0,18	0,28
EPS after SFAS 143 and changes of accounting principles	-	-	-	-0,40	-
Operating cash flow per share (€)	1,80	3,26	1,54	1,22	1,60
Free cash flow per share (€)	-0,79	-0,47	0,62	-0,03	0,21
PER*	12,3	4,8	44,7	26,8	16,9
PCR (applied to operating cash flow)	2,6	1,5	3,1	3,9	3,0
PCR (applied to free cash flow)	neg.	neg.	7,7	neg.	22,7
Dividend per share (€)	-	0,45	-	-	-

Source: Eckert &amp; Ziegler AG, LBBW

## Financial data

Financial data	2000	2001	2002	2003e	2004e
Equity ratio	63,9 %	67,5 %	66,2 %	62,7 %	61,8 %
Net debt/Equity	-2,7 %	-10,7 %	-13,5 %	-16,0 %	-18,9 %
Return on Equity (ROE)*	3,9 %	9,0 %	1,1 %	1,9 %	2,9 %
EV/EBITDA	2,4	0,9	1,8	2,1	2,0

\*before exceptionals

Source: Eckert &amp; Ziegler AG, LBBW



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**Financial calendar**

<b>Date</b>	<b>Event</b>
11. November 2003	Quarterly report Q3 2003
28 January 2004	4. Berlin Medtech Day
29 March 2004	Annual report 2003
30 March 2004	Analyst conference
11 May 2004	Quarterly report Q1 2004
25 May 2004	Annual General Meeting
10. August 2004	Quarterly report Q2 2004
9. November 2004	Quarterly report Q3 2004

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Source: EZAG; LBBW

LBBW employs a three-tier, absolute share rating-system. The respective ratings are associated with the following expectations: **Buy**: The share price potential is at least 10%. **Hold**: The share price potential is between 0% and 10%. **Sell**: We are expecting the share price to perform negatively. The ratings relate to a time horizon of up to six months.

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