

22 August 2008

# Institutional Equity Research

# Company

# Report

# MeVis Medical Solutions

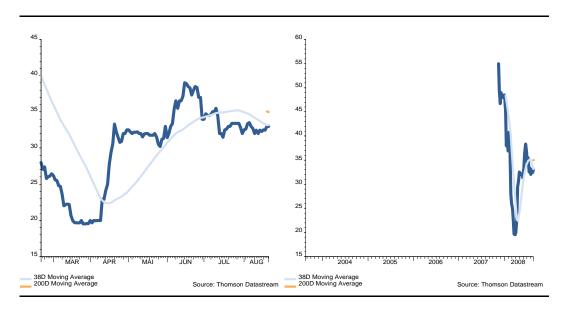
**Rating** 

**Buy (first rating)** 

# Initiation of coverage

Demand for breast cancer diagnostic software remains high High product scalability enables the company to earn high returns Highly promising diagnostic products due to be launched shortly

Initial rating: Buy. Target price: €49







### Buy

#### Target price: € 49.00

Price: € 33.00 08/21/08 17:28 h

Last rating/ No rating

Last analysis:

n.a.

S&P rating: n.a.

Health Care

Number of shares:

1.8 m

Market capitalisation:

€ 60.1 m

Index: Tech All Share

Index weight: 0.07 %

Beta: 1.3.

Accounting:

IFRS

Calendar: Q2 2008 on 08/27/2008

Dividend 2008e: 0.00

Div. Yield 2008e:

0.00 %

ISIN: DE000A0LBFE4

Bloomberg: M3V GR

Reuters: M3VGn.DE

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## **MeVis Medical Solutions**

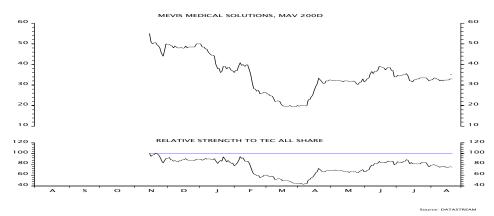
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### Returns in excess of 50% thanks to high product scalability

In its core business, namely breast diagnosis software solutions, MeVis still earns operating margins in excess of 50%. The investments in connection with the extension of the diagnosis applications to lung, prostate, etc. should pay off given that the software products are highly scalable. We expect the company to launch several new solutions as early as 2009, which should boost sales and earnings. We therefore rate the stock a Buy and our price target is €49.

Share ratio	Earnings per share		EV/Sales	EV/EBITDA	PER
	new	old			
	€	€			
2007	0.07	0.07	4.0	33.5	471.4
2008e	1.60	1.60	3.6	10.0	20.6
2009e	2.46	2.63	2.4	5.3	13.4
2010e	3.23	3.35	1.9	3.7	10.2

Company ratios	Sales	EBITDA	EBIT	EBIT-Margin	Net result
	m €	m €	m €		m€
2007	7.9	0.9	0.5	6.3 %	0.1
2008e	10.5	3.7	2.9	27.4 %	2.8
2009e	15.5	7.0	5.0	32.3 %	4.3
2010e	19.7	10.3	6.8	34.5 %	5.6



## Highlights

- + Product scalability
- + Partnerships with OEMs
- + Cooperation with end customers
- + Profitable basic products
- + Well filled product pipeline
- Low market capitalisation
- High proportion of revenues generated in the US
- Communications errors on the part of the executive board

Please note the disclaimer on the last page of this study.

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### **Executive Summary**

Established in 1997, MeVis Medical Solutions AG is one of the world's leading independent makers of software products for image-based medicine – in particular for digital radiology. The MeVis products analyse and process complex medical image data to give doctors considerable value added for early detection, diagnosis and intervention in the case of cancer, lung and neurological diseases.

The software solutions currently focus on providing support in the diagnosis of breast cancer and liver surgery. A significant **competitive advantage is the use of the company's own software development platforms**. These enable the company to quickly prepare software prototypes for various clinical conditions even outside breast and liver cancer indications.

The MeVis Group is a technological leader in its fields and has a **plentiful pipe-line of innovative products.** In addition, we believe there are **high entry barriers to the software segment for diagnostic support** of oncological clinical conditions. In 2008 and 2009, the company plans to launch new software solutions for the diagnosis of frequent forms of cancer (lung and prostate cancer) and neurosurgery planning.

#### MeVis Medical Solutions AG's strategy

- Extend the product portfolio exploiting considerable scale effects using the company's own development platform.
- Secure innovation leadership by developing close ties to leading medical practitioners in the individual fields and deepen these cooperation agreements.
- Cooperate with potential customers at the start of product development and at the same time ensure sales independence from individual OEMs.
- Extend existing partnerships with Hologic, Siemens and Philips and gain new OEMs.

We believe MeVis Medical Solutions AG is a **well positioned company** operating in a market that is attractive in the long term.

#### However, the company's results for H2 2007 were disappointing:

Over 80% of revenues are generated in the US. The company therefore suffered considerably from the weak US currency. In addition, the invoicing arrangements of one key customer changed, which resulted in a one-time shift in licence payments from Q4 2007 to fiscal 2008. In addition, the high costs associated with increasing staffing levels to develop new products and the IPO expenses had a negative impact on EBIT.

There are, however, no signs that demand in the core business is weakening, as the number of licences sold again grew in the high double-digit range in Q1 2008. Moreover, the core business remains highly profitable – the high investments are outside the mammography segment.

In our view, crucial catalysts for the MeVis shares are successful product launches from the end of 2008 and the conclusion of further cooperation agreements with new customers. Our valuation models imply a fair value of €49 per MeVis share.

#### **SWOT Profile**

#### Strengths

- Well filled product pipeline in connection with positive track record in introducing new software solutions.
- High product scalability enables the company to achieve above-average returns.
- Partnerships with research institutions, OEMs and end customers that are leaders in their respective fields ensures market acceptance.
- Efficient application platform permits a relatively simple extension to further modalities and a short adaptation process to OEM-specific requirements.
- The company is not dependent on individual OEMs.
- Management team is highly regarded internationally.
- Measurable benefit of improved diagnosis on the basis of MeVis software convinces OEMs, end customers and health insurers.

#### Weaknesses

- High proportion of sales generated in USD. Nearly all costs are in Euro.
- So far revenues are based on only a few products.
- Just three customers currently account for a large part of revenues.
- Management will have to regain investor trust after communication shortcomings in H2 2007.

#### **Opportunities**

- Increased demand in core mammography business in Europe could boost growth.
- Rapid placement of new products thanks to efficient own development platforms and established partner networks.
- Leap in earnings as early as 2009 as a result of marked slowdown in the growth of the workforce.
- Steady rise in maintenance business in the wake of licence sales.
- Winning new OEMs on the basis of new technologically superior products.
- Pharma industry and PACS producer are additional potential customers.

#### **Threats**

- A loss of a top customer would currently have a considerable impact on revenue and earnings.
- Possible delay to some product launches.
- Deficit Reduction Act (DRA) in the US could affect makers of mammography systems.
- Pricing pressure on OEM producers will also be passed on to MeVis.

### **Company Profile**

### **Key facts**

- 1997: the current MeVis Medical Solutions AG was established.
- Core business: development of disease-oriented software solutions for imaging medicine.
- Focus on the female breast (BreastCare software to support mammography early detection and diagnosis) and the liver (ASP).
- Extensive partnerships with OEMs, international research institutions and over 100 leading clinics worldwide.
- Acquisition of the FDA-approved "R2 Image Checker CT" (lung CT software for automatic detection of lung nodules) from Hologic in April 2008 and market launch in Q3 under own brand name. Through proprietary developments, extension of the software into a comprehensive application for lung diseases.
- Two applications for neurology and prostate diseases about to be launched.
- Revenues in 2006: €8.3m (113% Y/Y increase); revenues in 2007: €7.9m (weak dollar and change in one OEM's invoicing methods resulted in lower revenues).
- EBIT 2006: €4.7m (EBIT margin 56,8%); EBIT 2007 €0.5m. Considerable increase in staffing levels in 2007 together with dollar softness and IPO costs were responsible for EBIT decline. Core business remained highly profitable.
- 139 employees at 31 March 2008 (previous year: 72).

### Corporate structure and management

Founders hold majority of the shares

After the IPO (free float 40%) the founders and co-founders of the MeVis Group hold a majority of the shares in MeVis Medical Solutions AG. Together, the chairman of the management board Dr. Evertsz (19.5%), the chairman of the supervisory board Prof. Dr. Peitgen (19.5%) and co-founder Dr. Jürgens (16.5%) hold over 55% of the shares. In addition, the CFO Dr. Sieker holds a good 2% of the shares. Under the IPO, agreements were entered into to protect the market in the company's shares. These agreements rule out the sale of the shares up to 15 February 2009. After completion of a stock buyback programme, which was initiated following the collapse in the share price at the start of March, MeVis now holds 5% of its own shares. However, these have not been redeemed, but are to be kept as additional acquisition currency.

Dr. Carl J. G. Evertsz, co-founder of MeVis-Research GmbH and MeVis Medical Solutions, is the Chairman of the Management Board. Dr. Evertsz has a great deal of expertise in the analysis of medical imaging data, computer-aided diagnosis, financial mathematics and fractal geometry. The two board members Dr. Olaf Sieker (finance) and Thomas E. Tynes (marketing & sales) only joined the board in August 2007. Dr. Sieker worked for KPMG in Germany and the UK and is the founder of ifas Financial Advisory Services AG. Before moving to MeVis, Mr. Tynes was director of clinical solutions at Invivo Corporation (now Philips) and his role is to use his contacts to further increase the US business in particular.

### Company description

#### Scientific roots

The Bremen-based MeVis Medical Solutions AG focuses on developing software solutions for use in the growing medical imaging market. The MeVis solutions form a key interface between imaging device and doctors and are therefore crucially important. The MeVis Group was founded by Prof. Dr. Heinz-Otto Peitgen, an internationally highly regarded expert in dynamic systems, numerical analysis, computer graphics, image and data analysis and processing as well as computer support in image-based medical diagnostics and therapy planning. Prof. Dr. Peitgen is available to MeVis AG as Chairman of the Supervisory Board.

### Digression: history of MeVis Group

- 1992 Establishment of the research institution CeVis by Prof. Peitgen
- 1995 Establishment of MeVis Research GmbH as CeVis spin-off
- 1997 Establishment of the current MeVis Medical Solutions AG
- 2001 Joint venture with Siemens for breast cancer solutions
- 2002 Hologic is gained as a mammography customer
- 2003 Invivo (now part of the Philips Group) is gained as a customer
- 2004 Worldwide support in the planning of complex liver operations
- 2006 German Start-up Prize (Gründerpreis) ("visionary" category)
- 2007 Capital increased and IPO of MeVis
- 2008 Acquisition of patents in the lung segment

# Most employees are information scientists and engineers

#### **Employees**

These scientific roots are still reflected in the current structure of MeVis AG's staff. More than one-half of the 139 employees (as of 31.03.2008) are information scientists or engineers and about a further 25% are from the natural sciences (physicists, mathematicians and others).

# Long-term cooperation agreements with leading equipment manufacturers

### Extensive partnerships are part of the business model

The software applications of MeVis play a vital role in persuading end users to accept imaging systems. As a result, the relationship between MeVis and the OEMs (such as Siemens, Holgic and Philips) assumes much greater significance than if MeVis were simply a replaceable supplier. MeVis therefore maintains several - in some cases close - partnerships with leading equipment makers. It even has a joint venture with Siemens AG (MeVis Breast Care). The degree of cooperation ranges from exclusive collaboration to multilateral partnership. The principal advantages for MeVis are that OEMs, in some cases global leaders, give it faster market access, and parallel partnerships can further expand market potential. These close ties with its customers mean that MeVis can largely dispense with a conventional sales team. In our opinion, a partnership with MeVis offers equipment manufacturers the following benefits: 1) rapid time to market; 2) the elimination of the need to maintain highly specialised in-house R&D capability; and 3) the in-depth know-how of MeVis in the end user markets. Despite the advantages of in some cases very close product-specific partnerships, the general independence of MeVis AG is at least as important. This ensures that MeVis can actively develop products on its own and gives it access to the market through the strongest OEM and the use of MeVis solutions in competing products. However, this general lack of dependency on any one OEM is also the precondition for the optimal use of clinical and R&D partner networks. In our view, evidence that this precondition is satisfied in the case of MeVis is provided by the US company Hologic, which is by far the biggest customer of the joint venture with Siemens. One of the objectives of the IPO was to clearly demonstrate MeVis's independence from the joint venture partner Siemens to the outside world.

# Close cooperation with end users in clinics

The partnerships on the OEM side are supplemented by tie-ups on the customer side and on the R&D side. The cooperation with more than 100, in some cases highly regarded, clinics worldwide gives MeVis a very needs-oriented interface to top-class medical research. The company obtains a deep understanding of general medical conditions and workflow requirements. At the same time, the experts from various medical fields also serve as multipliers in the relevant sales markets.

# Access to basic research is secure

The high significance of research for MeVis AG is underlined by its partnerships with leading international research institutions and in particular by the 25.1% interest in MeVis Research GmbH. The planned conversion of the research institution into a Fraunhofer Institute at the end of the year will further broaden the research base for MeVis.

The networking at all levels of the value chain creates the basis for the translation of innovative research results into marketable products.

# Platform technology lowers development time and costs

### Rapid time to market thanks to MeVis application platform

The MeVis software is based on a platform technology that takes particular account of the special requirements regarding graphic user interface (GUI) design. Instead of the usual JAVA or .Net, a solution from Trolltech, which includes a C++ development environment with an object-based architecture, is used. This enables the MeVis developers to design applications for all important imaging systems on a uniform programming and application interface (API). Thanks to the high share of standardised basic functions, it is to some extent possible to present the first proposals for a product to customers directly. Prototyping and the actual development time are therefore considerably reduced, which gives MeVis a crucial competitive edge. At an acceptable cost, it is even possible to create different business models through target-group-specific releases such as special versions for clinical and OEM partners.

# Software enables diagnostic quality to be raised

#### MeVis AG's products

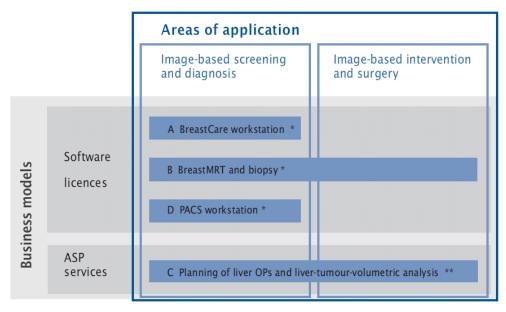
#### **Application areas**

The products of MeVis AG are mainly used in image-based screening and diagnosis in connection with medical evaluations and before surgery. The MeVis software serves primarily to raise diagnosis quality (among other things, by integrating computer-aided detection or tumour volumetric measurement techniques). In addition, workflows, image analysis and image representations are optimised to improve diagnostic efficacy. The software is also significant in basic research when the image-based diagnosis is extended to other areas of application. Medical imaging (and therefore the specific software as well) offers surgeons valuable support in planning and carrying out operations. For example, organ analysis based on segmentation or localisation of tumours can provide important pre-operative information on the medical procedures to be carried out. Interoperative support based on medical imaging is still largely in the future. However, it should develop into a further important area of application. The typical end users are radiologists, neurologists, gynaecologists, surgeons and medical technical assistants.

# Two high-selling products in the market

#### Products and solutions

Most of MeVis's current product portfolio is focused on certain anatomical regions or clinical conditions:



<sup>\*</sup> OEM

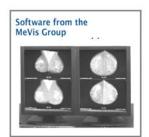
#### Source: MeVis AG

# Considerably improved diagnosis thanks to MeVis BreastCare

#### **BreastCare Workstation**

By far the most important product of MeVis AG is a software application of MeVis BreastCare GmbH & Co. KG (JV with Siemens) which is used in mammography systems. The digital mammography images can deliver up to 4800 x 6000 pixels per breast image and eight images per patient. They are mainly used for women over 40 whose tissue density permits x-ray-based screening.







Source: MeVis AG

Digital mammography is characterised in particular by the following features in comparison to analogue diagnosis on early detection of breast cancer:

- No dependency on individual OEMs.
- Convenient presentation of generated data by reduction without loss of information.
- Increased patient throughput and reduced error rates thanks to userfriendly and efficient workflows, which benefits in particular medical professionals charging on the basis of flat rates.

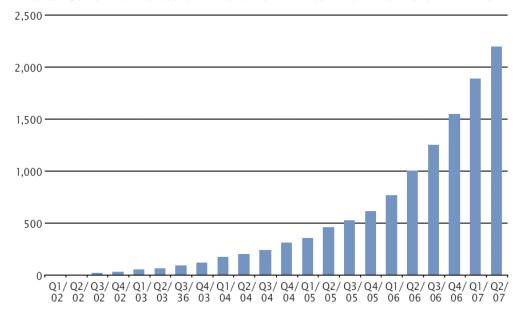
<sup>\*\*</sup> Clinics and pharma

# Hologic is MeVis's biggest customer by revenue

- Patients are exposed to lower radiation as images can be subsequently adjusted.
- Computer-aided, automatic diagnosis (CAD) is possible.

The customers are Hologic and Siemens. The JV partner Siemens accounts for a much smaller share of the revenues. The two companies purchase individually developed products. Customer support is provided by the OEM partners. As a result, the licence sales all flow into the income statements without deductions. Depending on the product and OEM, the typical price range of MeVis applications is between €5,000 and €25,000 plus 10-15% annually recurring maintenance revenues. A complete digital mammography system costs between €180,000 and €260,000. Assuming one or two licences per machine, this means that the costs of the MeVis applications are not really crucial for the OEMs. The market is becoming increasingly aware of the benefits offered by digital mammography. This is reflected at MeVis AG in the doubling of installed units fitted with MeVis software in a period of just 12 months.

#### BreastCare workstation: installed units with MeVis software



Source: MeVis AG

# Screening and biopsy in one product

### **Breast MRT and biopsy**

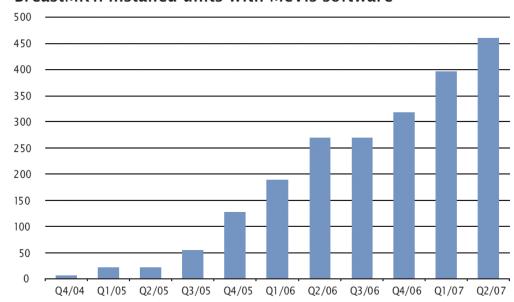
A further MeVis software application is also focused on female breast diagnosis. Breast MRT. However, Breast MRT is used in connection with nuclear spin tomography (also known as magnetic resonance tomography). This technique, which exploits the nuclear dipolarity of atoms and molecules, permits very sensitive diagnoses.

Even very early-stage breast cancer can be detected. However, despite its superiority over mammography and sonography – which has been proven in clinical studies – it is mainly used only for breast cancer risk patients and women with dense breast tissue. This is largely due to the high costs and relatively long patient treatment. Nevertheless, MRT technology is seen as the future standard for

!

breast cancer detection and therapy. In MRT software, MeVis AG collaborates with Invivo, a wholly owned subsidiary of Philips. The application is not only used for pure tissue diagnostic purposes. If required, it also controls a targeted biopsy, which means a considerable simplification compared to conventional procedures. The Invivo-MeVis cooperation product was the first biopsy solution on the market (launch 2004) and is now one of the world market leaders. Since September 2005, Siemens has also sold the product in addition to Invivo under the name DynaCAD.

#### BreastMRT: installed units with MeVis software



Source: MeVis AG

# Drawing up an operation plan using MeVis ASP solution

#### Pre-operative liver surgery planning

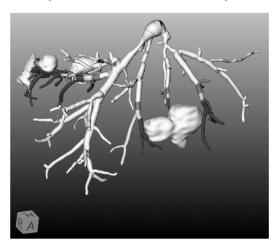
The second human organ for which MeVis AG offers diagnosis solutions is the liver. As part of an ASP solution, the software of the Bremen-based company makes it possible to segment and represent the livers vessel structures functionally and to carry out a volumetric analysis of liver tumours. The CT and MRT data are sent to MeVis via specially developed internet transmission technology and analysed and evaluated with a view to preparing an operation plan.

Algorithms originating from fractal mathematics form the basis for the solution. These are used to calculate the vascular structure of the liver and relevant areas. The doctor is faced with a fundamental conflict between two objectives. One the one hand, there is a lower risk that the disease will return is lowered if as much tissue as possible around the tumour is removed. On the other hand, the organ's ability to function properly is increasingly impaired the more tissue is removed. The software solutions provided by MeVis enable the effects of differing operative steps on the ability of the remaining organ to function to be simulated, which optimises the success of the operation. On the basis of these data, prior to the actual operation the doctor can plan ahead to keep surgical intervention in the case of tumour diseases and live liver transplantations to a minimum. Ideally, the doctor can then perform the actual operation according to a previously drawn up plan. The doctor thus has extensive expertise at his disposal, which

cannot be rated too highly in the case of surgery on a vital organ. Billing is on a case by case basis. The clinic incurs no further IT or personnel costs.

MeVis works in this field in partnership with several highly regarded clinics worldwide. Of these, the Charité in Berlin is probably the best known in Germany. To date, MeVis has evaluated more than 3000 data sets and planned more than 830 liver transplants and over 750 liver tumour resections.

### Preoperative scenario analysis





Hepatic veins at risk with 5, 10 and 15 mm safety margins

Source: MeVis AG

# PACS workstation only a marginal activity for MeVis

#### **PACS** workstation

The PACS workstation, which is sold through Medos AG – a subsidiary of the US medical technology company Ortivus – represents the only MeVis application that is not focused on certain anatomical regions or diseases. PAC (picture archiving and communication) systems are image archiving programs that are embedded in hospital information systems. The data generated by imaging systems is recorded digitally in a standardised manner (DICOM). This opens up huge opportunities for the departments in question to raise efficiency compared to conventional methods in which image data is documented, stored and physically forwarded on paper or film. This product, which has grown out of MeVis's history, is not part of Mevis AG's main business. Competition in the PACS market is fierce and achieving unique product features in this field is not possible.

### **Corporate strategy**

Existing strengths serve as a basis

The further strategic development of MeVis Medical Solutions AG is based above all on the company's existing strengths:

- Independence from OEMs.
- **E**stablished global partnerships with OEMs, clinics and research institutions.
- High scalability and rapid development of new products thanks to a standard platform optimised over several years give the company a crucial competitive edge.

MeVis AG is likely to be operating in a market with only moderate growth on the hardware side. In our view, it is above all the modernisation of the existing installed base that will offer MeVis opportunities. In this connection, we would mention in particular cost-cutting potential, the ongoing trend towards digitalisation, new technologies (3D ultrasound) with steadily rising data volumes and a steady expansion of image-aided medical applications. In this environment, the potential strategic steps that MeVis AG can take can be outlined as follows:

- $\Rightarrow$  Expand partnerships with OEMs.
- ⇒ Internationalise the MeVis Group.
- ⇒ Continuously extend the portfolio of products and services.
- ⇒ Acquire teams and ideas on a selective basis.

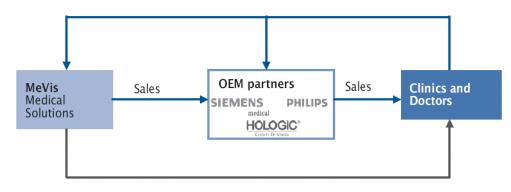
#### Partnerships with OEMs to be extended

MeVis aims to develop the existing partnerships between MeVis AG and three 3 OEMs (Siemens, Philips, Hologic) and with clinics and medical professionals. It also wants to find further partners. Clinical partnerships serve above all as multipliers and opinion-leaders through early product launches in connection with entry into new markets. The list of measures aimed at achieving the goals ranges from establishing systematic sales structures in all relevant regions to raising the company's presence at trade fairs and congresses, systematically directly targeting clinics and medical professionals for further pilot projects and directly selling early-stage products.

### Cooperation tie-ups with further OEMs planned

### MeVis AG sales model

#### **Demand for MeVis solutions**



Selective sales and direct marketing

Source: MeVis AG, LBBW

# Increased presence in Asia and the US

#### Internationalisation

MeVis believes that geographical proximity is a key factor in winning further customers. As the company is operating in a global market with no national, cultural or language barriers and the world's leading OEMs are more or less evenly distributed across Western Europe, North America and Japan, building up a presence close to customers is a logical step. By recruiting the US-based board member Thomas Tynes, MeVis has already taken this step in the important North American market. It aims to further expand activities there and also plans to establish a presence in Asia.

#### Focus on licensing business

#### Extension of product and service portfolio

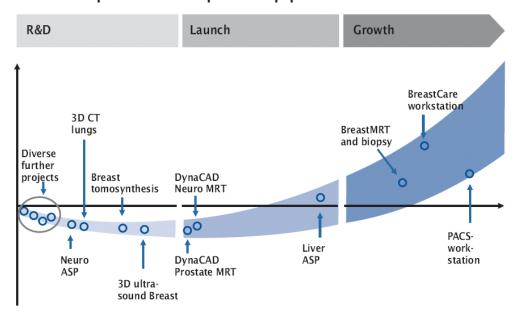
In the **licensing business** in particular, MeVis plans to focus on numerous further clinical conditions and medical fields through MeVis solutions. Examples of such areas are orthopaedics, cardiovascular diseases, neurodegenerative diseases and computer-aided surgery. In addition, the ongoing development of imaging technology and the combination of existing technology offer further growth opportunities (optical imaging, MRT spectroscopy, molecular imaging). In this connection, MeVis can point to a well filled pipeline with developed products, some of which are due to be launched next year.

At product level, MeVis plans to focus on numerous further clinical conditions. At present, diagnosis is focused mainly on the female breast in the licensing business and on the liver in the ASP business. Both segments offer extensive opportunities to increase business volumes.

# Customers from pharmaceutical industry could gain in significance

As billing is on a case-specific basis, the **ASP model** is especially interesting for complex, rare clinical conditions for which building up the required competence does not pay off for single hospitals. In addition, MeVis has agreed on the first commercial partnership with pharmaceutical companies to evaluate field trials systematically. MeVis believes opportunities exist above all in surgery relating to the pancreas, lung and kidney. Besides hospitals as end customers, further companies from the pharmaceutical industry are potential customers. If therapeutic success can be identified early on the testing of new chemotherapeutics using imaging diagnostics, costs can be saved for example in calculating the dosage that depends on tumour involvement.

### MeVis AG products and product pipeline



Source: MeVis AG

#### **Acquisition strategy**

The extensive network of partnerships with OEMs, clinics and R&D partners regularly provides MeVis with attractive acquisition opportunities. MeVis is not looking to acquire competitors. Instead, it wants to gain products, know-how and technologies through selective acquisitions. Typically, this relates in particular to working groups from academic or commercial fields that have played a significant role in designing and developing new products. A pleasant side-effect of such acquisitions is that they make it easier to establish business relations with certain OEMs and so accelerate the targeting of attractive market segments.

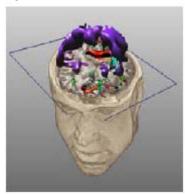
# First acquisition in lung CT completed

In mid-April, MeVis completed its first acquisition. The Bremen-based company acquired the lung computer tomography software business from Hologic R2, a subsidiary of the US company Hologic Inc. The acquisition covers the Hologic R2 products, the technology and the patents for computer-aided detection (CAD), advanced visualisation and analysis of multi-slice CT (MSCT) lung images. In addition, MeVis obtains access to further leading medical technology businesses which supplement the existing customer base.

#### Growth is a clear target

In summary, MeVis AG's strategic goal is clearly focused on strong growth.

# Digression: selected examples from the MeVis product pipeline DynaCAD Neuro MRT





The Mevis software assists in the representation and analysis of brain data in various imaging methods such as MRT, fMRT, DTI to identify potential lesions, cognitive brain areas or important nerve connections inside the brain. In addition, workflow and visualisation components make it easier for neurologists and neurosurgeons to plan operations. DynaCAD Neuro MRT is due to be launched at the end of 2008 with sales through the installed base of MRT head coils of Invivo/Philips.

# U-Systems will become new OEM sales partner

#### 3D breast ultrasound

A further method of breast cancer screening is a technical innovation of sonography, namely full-field or 3D burst ultrasound. The main advantages over conventional mammography are its suitability for dense breast tissue and the lack of exposure to radiation. The MeVis solution makes it possible to supplement digital mammography and MRT images. According to MeVis, there are currently about 50 3DBUS systems. On the assumption that these methods will assume an important role in breast cancer screening, the number of annual new installations is likely to rise to over 1,000. 3DBUS is likely be launched in 2009. The OEM partner is the US company U-Systems, which is considered world leader in this field.

#### **Breast tomosynthesis**

Tomosynthesis represents a further considerable advance in 3D mammography on the basis of a slice or layer imaging method. The first studies show a higher reliability of the evaluations in the case of dense breast tissue. MeVis has been developing a specialised application for two years in close cooperation with Siemens and Hologic. The product is expected to be launched in mid-2009. According to MeVis, the market potential for breast cancer examinations based on tomosynthesis could match the size of the mammography market. In view of the large amount of data, the software application is extremely significant in this method.

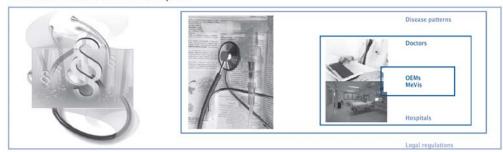
## **Market and Competition**

### MeVis's approach in medical technology

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MeVis AG develops software solutions for medical imaging technology. It is necessary to distinguish between products for individual indications (clinical conditions/organs). The area in which MeVis AG operates should be viewed in the broad context of the overall healthcare system. Even matters that at first glance do not directly affect the company (e.g. healthcare legislation, hospitals' buying policies, acceptance of specific imaging methods by health insurers) may have a crucial influence on the business development of the software maker.

MeVis in the context of the health care system



Source: LBBW, Photos: © Internet

# Fast adaptation to differing customer requirements

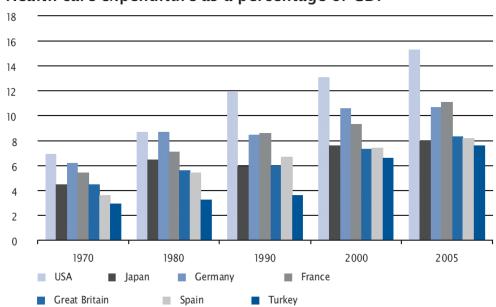
For example, the major players in the medical imaging systems segment such as Siemens or Philips can be both customers and competitors in software. The software solutions offered by MeVis are based on a platform that enables rapid adaptations to various customers solutions to be made. It should be borne in mind that adapting to the equipment of different end customers is not the major challenge. Rather, creating images of various organs (e.g. from liver to lung) in combination with the respective imaging methods (e.g. CT and MRT) requires a huge R&D effort. Below, we first take a look at the development of the global healthcare system, upon which the business prospects of MeVis customers depend.

### Global healthcare expenditure

#### Global healthcare expenditure

Over the last 40 years, global healthcare expenditure has risen steadily and will probably continue to rise faster than GDP in the future.

### Health care expenditure as a percentage of GDP



Source: OECD data July 2007

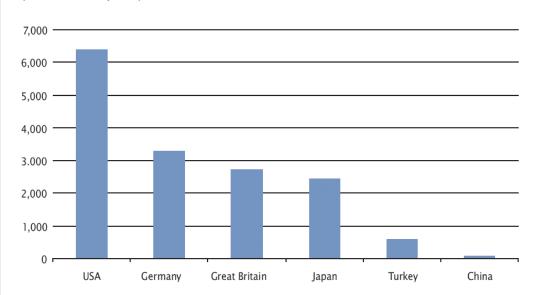
In our opinion, this development is attributable to four mega trends:

- 1. Increase in civilisation illnesses (above all diseases attributable to obesity)
- 2. Rising prosperity in the industrialised nations and emerging markets
- 3. Demographic developments in the industrialised and emerging markets
- 4. Advances in medicine

US by far the most important market

If one considers the healthcare expenditure per capita it quickly becomes evident that the US is by far the most important market. It accounts for more than one-half (USD 2.1bn) of global healthcare benefits. MeVis AG generates more than 80% of its revenues in North America. We consider the scope for development in emerging markets is interesting. Both in terms of the absolute amount of per capita healthcare expenditure and healthcare expenditure as a percentage of GDP, the emerging markets should possess huge potential to close the gap. This is likely to fuel global growth of healthcare benefits for decades. However, even the industrialised nations, which still account for over 80% of global healthcare expenditure, have achieved respectable growth rates of late despite considerable efforts to cut costs. On balance, this represents a favourable environment for the overall market for healthcare services in which the customers of MeVis operate.

# Per capita health care expenditure (2005 in USD; PPP)

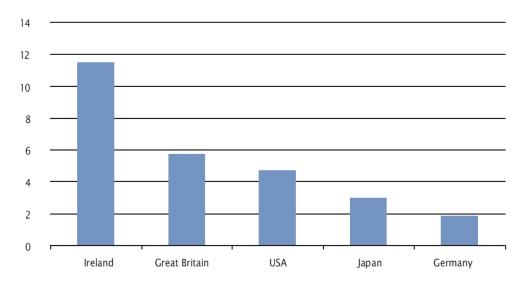


Source: OECD data July 2007

# Demographic trend is the biggest cost driver

The biggest cost driver is likely to remain the demographic development both in industrial and emerging countries. In other words, life expectancy and the share of the over-65-year-olds should increase. In the emerging market countries in particular, we are at the start of this development, which should accelerate further as prosperity increases.

# Growth rates for health care expenditure (as a % y-o-y)



Source: OECD data July 2007

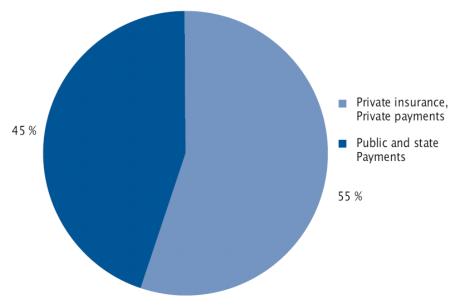
The over 65-year-olds require on average four times more medical services than persons aged between 25 and 45. An important reason for this is the significantly higher occurrence of cancer in those who are older than 65. Given the demographic development up to 2020, the number of cancer cases is expected to rise worldwide by 50% to 15.7m cases a year. Worldwide, cancer accounts for about 13% of all deaths – in the industrialised nations as much as 25%. Nearly 40% of the population in the industrialised countries are likely to be diagnosed with cancer at least once during their lifetime. The MeVis software solutions for medical imaging systems are mainly focused on diagnosis of and therapy for different forms of cancer. In view of the demographic trend outlined above and the resultant steady rise in the number of cases treated, demand for MeVis solutions overall should grow considerably.

# Private insurance plays a dominant role in the US

#### General conditions in healthcare

The framework for the healthcare system is largely set by legislators and health insurers. However, it is above all the hospitals and physicians providing treatment that have a direct influence on the purchase of equipment. In the industrialised states, the legislators are responsible for approving medical devices and drugs. The focus is on safety and the recognisable benefits of the medical innovations. In addition, government authorities in all industrialised countries exert a dominant influence on how healthcare systems are shaped – in other words the extent to which public and private health insurers dominate the healthcare system and eligibility to receive state benefits and the scope of such benefits. For example, in the US – by far the most important market for healthcare services and for MeVis AG – private insurers and private payments account for some 55% of all expenditure, while 45% comes from state and public funds.

### Breakdown of health care expenditure in the USA



Source: OECD data July 2007

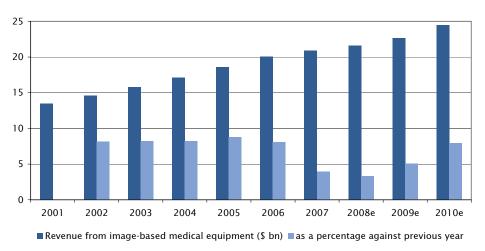
The two federal/state heath insurance programs Medicaid and Medicare, which together insure over 50m Americans, account for a significant proportion of the public funds. People over the age of 65 may claim benefits under Medicare. At least some of the costs are covered by contributions paid by the insured. By contrast, Medicaid provides health care to persons with low incomes and resources who are entitled to claim social security benefits. Medicaid is organised by the states and funded equally by the individual states and the federal government. In most states, the Medicaid program is one of the largest expenditure items (taking up 25% of the total budget on average). Since 1999, outgoings have increased by some 13% a year on average. This year, public healthcare expenditure will probably again show by a double-digit rate to \$830bn. The Deficit Reduction Act (DRA) enacted in 2005 attempted to curb the rise in costs. The makers of imaging systems – the most important customer group of MeVis AG – are also affected by this.

### Market for medical imaging technology

#### Market development

Last year, the world market for medical technology amounted to more than USD 265bn, which is equivalent to about 7% of total revenues in the healthcare market. The world market for imaging methods – medical equipment for ultrasound or computer tomography examinations – grew to about \$21bn last year. Over the last five years, the average annual growth rates have been over 7%.

#### Revenue from image-based medical equipment

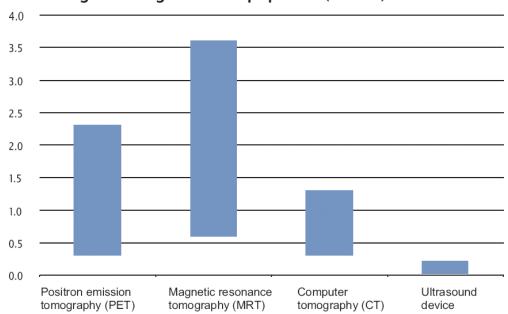


Source: Biotechnology Associates, LBBW

# Negative DRA impact should gradually fade

The dip in growth in 2007 and this year is attributable to the Deficit Reduction Act (DRA). Services for patient examinations using imaging systems were also affected by the savings efforts of the government health insurance programs Medicaid and Medicare. As a result of the cut in reimbursements for imaging-based diagnoses, the radiology centres have ordered less medical equipment from producers. However, this has largely affected expensive hybrid systems, i.e. combinations of several imaging methods such as PET and CT. The growth rates of the comparatively dear magnetic resonance tomography devices have also slowed of late.

### Price range of image-based equipment (€ in m)



Source: Philips Medical, LBBW

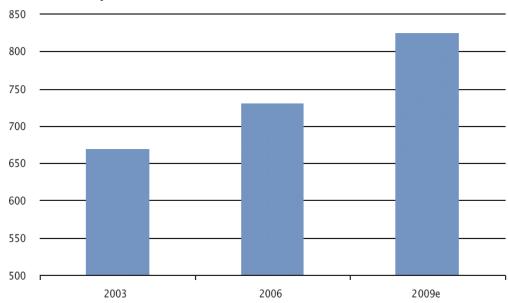
# Digital mammography hardly affected by DRA

However, the market for digital mammography equipment (mainly CT systems) so far targeted by MeVis AG has been unaffected. On the contrary, while just 300 systems were installed in the US in 2005, the number grew to 937 digital mammography systems in 2006 and over 1,500 in 2007.

Despite the recent dip in growth caused by cost-cutting efforts in the US public healthcare system, we expect revenue momentum to rise again in the global market for imaging systems. The negative impact of the DRS in the important US market should gradually fade. For example, diagnoses based on imaging equipment financed by the public sector have most recently accounted for just 25% of the revenues of the radiology centres. Most patient scans are paid for by private insurers and the patients themselves and the DRA has no direct influence on either of them. Moreover, the savings under the DRA were mainly aimed at smaller, less efficient radiology centres with just one or two diagnostic devices, which had grown strongly in recent years.

The US market for radiology services is still very fragmented (revenues in 2007 approx. \$100bn). Aside from nearly 5,800 hospitals with radiology departments, there are a further 6,000 or so diagnostic centres. Just 450 of these centres are owned by one of the five major radiology service providers. In other words, no service provider has a market share of more than one percent. In our view, the DRA will of necessity result in larger and more efficient diagnosis centres. The radiology departments in the hospitals should emerge stronger from the consolidation process. In addition, we believe that as a result of lower public-sector payments for services we will see a process of consolidation among service providers.

### Number of patient scans worldwide (million)



#### Source: GE, LBBW

# Leap in number of digital radiology devices

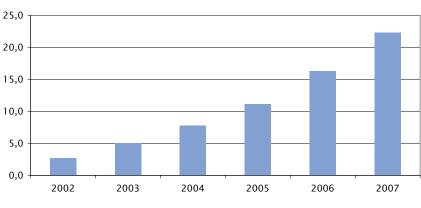
An important trend in imaging systems is the rapid increase in the market share of digital radiology equipment. Reasons for the rising demand despite the higher acquisition price are:

- Considerably better image quality and thus improved diagnostic quality.
- In the case of x-ray-based applications, much lower exposure to radiation.
- Studies have confirmed diagnosis quality. Customers are demanding digital equipment for their examinations.
- Markedly lower operating costs, quicker ROI.
- Real-time viewing of areas examined.
- Rapid availability of diagnostic results.
- Easy storage of results and integration of stored data into the IT workflow of diagnostic centres.
- Stored images can be further processed for extended diagnosis.

# MeVis specialised in digital methods

The software applications provided by MeVis AG relate solely to digital imaging methods. The company is therefore profiting from the boom in this field. Software applications for digital mammography equipment currently represent the most important market for MeVis. The degree of usage of digital mammography systems varies greatly from country to country. In our view, key factors are the reimbursement commitments of health insurers and public awareness of the significance of improved diagnostic possibilities. In Korea, only digital mammography systems are acquired. In the US, their share in the installed base has now climbed to about 30%. In France, the health insurers may soon give their approval.

# Share of digital equipment in mammography systems installed worldwide (%)



Source: Biotechnology Associates

We believe that digital systems will replace film-based equipment in the industrialised states in the medium term. However, in the emerging markets this development is likely to be take over a decade given the lower costs of film-based radiology equipment.

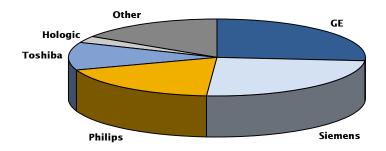
In our opinion, the growth drivers are:

- The demographic trend, outlined above, in the industrialised and emerging countries.
- The growing prosperity in industrialized and emerging countries, which means that the share of healthcare expenditure rises disproportionately to GDP.
- Given the more frequent occurrence of cancer in the over-65-year-olds, there will be increasing demand for diagnostic services using imaging systems.
- Thanks to improved radiological method, diagnosis based on imaging systems may be used for increasing numbers of clinical conditions.
- The advantages of digital radiology systems should ensure increasing momentum in the replacement business, i.e. an accelerated replacement of the installed base.

#### Market participants

The market for imaging systems is largely controlled by an oligopoly – GE, Siemens and Philips. Together, these three groups have a market share of some 70%. Toshiba plays a larger role only in Japan. However, no exact data on the global revenues of the individual competitors are available, as the major companies do not normally report separately on the individual segments in their medical technology divisions. Further companies with a market share of more than 2% are Hitachi, Eastman Kodak, Varian and BioMérieux. In the last three years, there has been a shift in market shares in favour of the three market leaders – partly as a result of acquisitions. However, the US company Hologic has also recently managed to significantly raise its markets share in the mammography market, which is important for MeVis.

# Market share of image-based medical technology (2008e, %)



Source: Companies, LBBW

In 2008, the three leading manufacturers of imaging equipment will probably generate about 45% to 55% of their revenues in the US – even though it accounts for only some 41% of global revenues. The reason is that the Japanese companies Toshiba and Hitachi have virtually no presence in North America and earn most of their revenues in Asia, where the big three in turn achieve low market shares. Only the medical imaging technology division of Philips has very respectable revenue shares in Asia. While GE is number one in North America, Siemens has clearly closed the gap on the domestic market of its competitor. In Europe, Siemens and Philips are the undisputed market leaders. About one-third of the segment revenues of the two companies is generated in this second most important market for radiology systems.

Hologic the most important customer

Siemens, Philips and Hologic are currently customers of MeVis AG. These three companies account for nearly 50% of the global market in medical imaging technology. As MeVis's main product relates to mammography, most revenues have been generated to date with the world market leader in that segment, namely Hologic. As new products for the diagnosis of further indications, for example in neurology and pneumonology, are placed, the huge market potential of Siemens and Philips can be gradually tapped.

### **Medical imaging methods**

#### Foundations of medical imaging

*Diagnosis* remains a major area of focus in medicine. Unless and until an illness is detected, classified and the stage of the disease is determined, therapeutic – or rather the ideal therapeutic – measures cannot be taken. Physicians have to know what illness their patients are suffering from. Only then can they decide on the proper therapy.

Imaging techniques give physicians views of the inside of the body that they would not have with these technologies. In recent years, the two key technological drivers in clinical image-based medicine have been the rapid development of imaging methods and hospital digitalisation and networking. Especially in computer tomography (CT) and magnetic resonance tomography (MRT) there is a trend towards ever finer resolutions combined with an explosion in data volume.

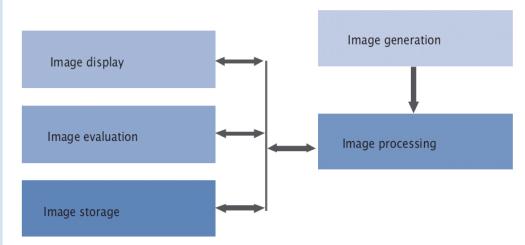
Along with technical progress at the equipment level, there have been significant advances in hospital IT infrastructure over the last 10 years. Today, digitalised radiology – from imaging systems to digital archives and links to administrative systems – is now more or less standard. New software programs in medical technology represent important innovation and productivity drivers. In particular in digital medical imaging, they enable additional information to be obtained and help raise the efficiency of data analysis.

# Key role played by software in medical technology

We believe software development plays a key role in medical technology. This is where the MeVis products come into play. MeVis develops disease-oriented software solutions for medical imaging systems. The focus is on oncology (cancer), neurology and surgery. Through partnerships with leading medical technology companies worldwide MeVis offers software solutions to support diagnosis, therapy, intervention and surgery for special clinical conditions.

Medical imaging can be divided into five different areas: image creation; image processing; image evaluation; image representation; and image storage.

### Stages of image processing



Source: Research Report No. 04 -3 (University of Trier), LBBW

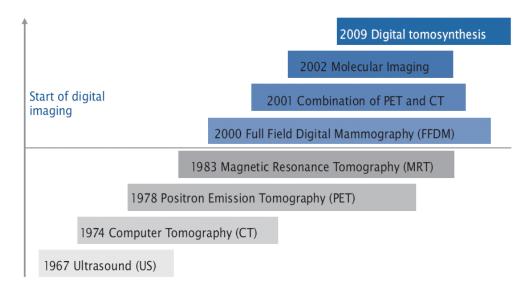
#### Definitions:

- Image creation covers all steps from the recording of the image to the build-up of the digital image matrix.
- Image processing covers various manual or automatic operations that can be carried out without knowledge of the concrete contents of the individual images.
- Image representation describes all manipulations to the image matrix that serve the optimised display of the image.
- Image evaluation covers measures that can be used for quantitative measurement and abstract interpretation of medical images.
- Image storage covers all technologies that serve the transmission, archiving and access of and to the data.

#### Commercial product launch of digital imaging methods

From the viewpoint of the software developer and medical professional, the image data are distinguished first and foremost by the nature of their generation. An understanding of the basic principles of image generation in the differing methods represents an important prerequisite for the optimal design and operation of computer-aided image processing systems.

# Commercial launch of digital imaging procedures



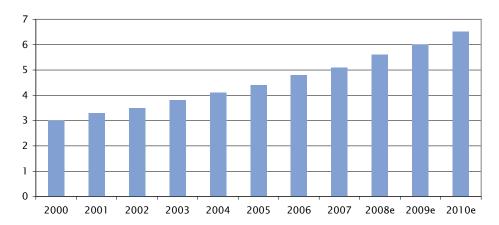
Source: MeVis AG, LBBW

#### Ultrasound (sonography)

Sonography is one of the most frequently used imaging techniques in medicine. A key advantage of sonography over x-rays, which are also often used in medicine, is that the ultrasound waves used are harmless. Even sensitive tissues, in unborn babies for example, remain unharmed and the examination is largely pain-free. The ultrasound waves are generated in a transducer and received by it after reflection. The received wave impulses are covered into electrical pulses, which in turn are converted into pixels. From a large number of such pixels a two-dimensional image is created.

Radiologists need many years of experience to use the simpler images for diagnostic purposes. This therefore means a heightened risk of incorrect diagnosis in the case of medical practitioners that only occasionally evaluate sonographic images. However, higher resolutions have led to improved image quality of late. Besides the ultrasound Doppler method, which enables blood flows in organs to be reproduced graphically, the most significant development in recent years has been the move to 3D reproduction. This has greatly extended the areas of application for sonography.

# Revenue from ultrasound medical equipment (\$ bn)



Source: Biotechnology Associates

Sonographic scanners are easy to use and largely without side effects. These benefits, combined with the price level at least for the simple devices, have contributed to the widespread use of sonography as a diagnostic instrument. The global ultrasound market should grow to about \$5.5bn in 2008. New software solutions from MeVis are planned for 3D ultrasound breast cancer diagnosis in 2008. By the end of 2009, products for cardiology – last year 41% of worldwide sonographic scans related to the heart – may be ready for market launch.

#### X-ray-based methods

X-ray technology is the oldest imaging technique and was first applied at the start of the last century. The part of the body under examination is penetrated by radiation, which therefore weakens to varying degrees. The intensity of the weakened x-rays is then recorded by detectors such as film or digital sensor. A projection image is obtained showing the various body layers superimposed. Special variants of x-ray technology are used in mammography – currently the most important market for MeVis –

and digital radiography. The use of digital x-ray systems can markedly lower exposure to radiation.

MeVis software makes it easier to detect tissue anomalies

In conventional x-ray diagnosis, distinguishing between healthy and diseased soft tissue is difficult for medical practitioners. The MeVis software makes it easier to detect tissue anomalies. Algorithms adjusted to the specific tissue structures of a certain organ enable deviations to be shown much more clearly. This in turn may result in a considerably improved diagnosis.

3D organ reconstruction possible with CT

#### Computer tomography (CT)

Computer tomography (CT) is an imaging technique that was introduced in 1976. Using x-rays it enables individual slices of the body to be represented with no superimposition. The working principle of a CT device is based on an x-ray tube which rotates around the patient and whose rays are absorbed by the patient's body. The computer translates the measured signals into layer images using appropriate algorithms. The neighbouring slice images then serve as the basis for a 3D reconstruction.

MRT achieves the best results in representing internal organs

MeVis has its sights on the MRT market

So-called multi-slice CTs represent today's gold standard. With these machines 64 slices can be recorded simultaneously and a high speed of rotation ensures that the examination can be carried out quickly. The new systems offer a very high resolution and a very clear representation of the examined organs. The significance of CT above all in the industrialised countries is also reflected in the rising number of systems used in the various countries. Worldwide revenues generated with computer tomography systems is likely to exceed \$4bn in 2008. In particular in neurology (stroke diagnosis) and the use of CT for cancer detection, we see considerable opportunities for MeVis to introduce new products to aid diagnosis.

#### Magnetic resonance tomography (MRT)

Magnetic resonance tomography (MRT) – also known as nuclear spin tomography – is an imaging method used to represent internal organs and tissues. In contrast to x-ray examinations, MRT uses magnetic and radio waves rather than x-rays. MRT certainly delivers the best results when it comes to representing internal organs and tissues. However, the systems are markedly more expensive than CTs and are therefore not in widespread use especially in the emerging countries. However, in view of the high image quality the significance of MRT for cancer diagnosis is likely to continue to grow.

A part of MeVis's strategy is multimodal applicability of its software. In other words, the software solutions are designed to be applicable to as many imaging techniques as possible, ideally to all. We therefore believe that MeVis is likely to further boost its research expenditure on product development in the lucrative MRT market.

### Positron emission tomography (PET)

Positron emission tomography (PET) is a radiological slice image method used to aid diagnosis of organ or tissue disease. The PET technique makes use of positron emitters. Prior to the examination, the patient has to take radio pharmaceuticals. These become especially concentrated in tumour tissue. The activity distribution of the radiopharmaceuticals is recorded by CT and a slice image is calculated. PET is especially good at representing metabolic processes. This is of particular interest because tumours show heightened sugar consumption. PET can thus detect tumours throughout the body. However, PET has a limited resolution. This makes it difficult to localise tiny metastases in the entire body. While PET applications are normally not yet reimbursed by European health insurers, PET systems in the US have experienced a real boom in the last five years as a result of their success in the diagnosis of Alzheimer's. However, efforts to save costs in public healthcare (DRA) resulted in revenues remaining flat for the first time in 2007 (PET in the US: 2007; \$1.1bn; 2006; \$1.2bn).

#### Hybrid equipment

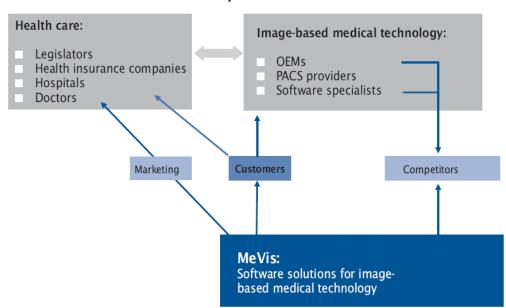
To combine the respective strengths of PET and CT, hybrid systems that integrate the two techniques have been developed. The advantages of one system thereby make up for the disadvantages of the other. Given the drawbacks of the stand-alone machines, hybrid systems are expected to enjoy strong growth over the coming years. The US is likely to remain by far the most important market for the time being with an expected volume of over \$1.2bn this year. In the meantime, combined PET/MRT systems are also available. However, they are still in a very early phase. PET/MRT systems are also in the high-price segment of imaging diagnostics. Given the efforts to cut healthcare costs worldwide, we consider it unlikely that a large market will develop for PET/MRT hybrid systems. Further techniques that are in the early development stage are molecular diagnostics and digital tomosynthesis. MeVIs is collaborating with leading medical equipment makers to develop diagnosis support software for these applications. However, we do not expect MeVis to deliver software solutions for these applications before mid-2009.

Former competitors (OEMs) gained as customers

### Software market for medical imaging

MeVis has established itself in a niche market in diagnosis-supporting software solutions for digital imaging systems. In our opinion, it is virtually impossible to find valid data for the software solutions market of relevance for MeVis. Many of the applications are prepared in-house by the large medical technology companies and are not reported separately. MeVis has gained access to medical technology companies - initially through cooperation agreements with market leaders such as Siemens (MeVis Breastcare joint venture) and Invivo-Philips. In our view, MeVis was able to win over the potential competitors Siemens and Invivo as customers because it offers applications that the OEMs were unable to develop themselves. We view the software solutions offered by MeVis above all as an "enabling technology". In other words, rather than competing with an existing equivalent product, they open up totally new diagnosis possibilities that were not attainable with the solutions previously available in the market. The OEMs integrate the MeVis applications into their digital imaging systems and sell the solutions under their own labels. As the major medical engineering companies do not generally license their software solutions to each other, we expect no competitive pressures on MeVis from them.

### MeVis customer relationships



Source: MeVis AG, LBBW

For the time being GE will not be a customer

Growth with established OEM customers

The Bremen company's aim is to convince further OEMs to license in their technologically leading software as an "enabling product". We have made very conservative assumptions on how many further customers will be gained. For the time being, we consider it unlikely that MeVis will persuade the market leader GE, which sets great store on using its own exclusively developed products, to license MeVis applications. In our view, the most likely additional partnerships are with Japanese medical technology companies.

We believe MeVis will achieve further revenue growth by building up its partner-ships with existing OEMs. There is huge potential as MeVis so far only has products for breast cancer diagnosis and liver surgery on the market. MeVis is about to launch products for numerous further clinical conditions (prostate, lung cancer, etc.). By expanding its product portfolio, it should also awaken the interest of PACS providers to enter into cooperation agreements. The core competence of the makers of picture archiving systems (PACS) lies in hardware. They are normally unable to compete with OEMs in coming up with innovative software solutions for diagnostic purposes.

## Market participants:

## **Competitors and customers of MeVis**

OEM (in-house	Software		
development)	spezialists	<b>PACS Suppliers</b>	
General Electric	Barco (Voxar)	Agfa	
Siemens	Brainlab	Amicus	
Philips	CADScience	Carestream (Kodak)	
Hologic	Confirma	Eclipsys	
Toshiba	iCAD	Fuji	
Hitachi	ImageDiagnost	McKesson	
Instrumentarium	Medipattern	Sectra	
Varian	Merge (Cedara)		
Planmed	TeraRecon		
Giotto	Viatronix		
	Vital Images		

Source: MeVis AG, LBBW

# High entry barriers to MeVis's special field

There are numerous medical software specialists. However, few of them compete head-on with MeVis as their focus is on other areas such as workflow optimisation. In breast cancer, we believe Confirm is the closest to being a direct rival. However, we believe that MeVis's products have unique features that competitors, in our view, are unable to offer.

We believe the entry barriers to the software segment for diagnostic support for oncological clinical conditions are very high:

- The development of the appropriate algorithms to record different vessel structures requires many years of intensive research.
- The patented development platform MeVisAP makes it possible to exploit considerable scale effects.
- Many years of collaboration with leading medical professionals and hospitals are required.
- Without an effective software platform on which the most important algorithms that are regularly needed are already available, we believe that rapid development of innovative solutions for new imaging systems (e.g. hybrid devices) is hardly possible.

MeVis has so far deliberately opted not to do any extensive marketing work of its own. The products are marketed through partnerships with OEMs and the opinion leaders in the clinics.

# Revenues quadrupled from 2004 to 2006

## The Company Figures

### **Historische Development**

#### High growth rates in revenues in earnings up to 2006

The assessment of the development of revenues and earnings from 2004 to 2006 is entirely positive. In 2006, revenues totalled  $\leq 8.3$ m, more than twice the level of the previous year. In 2005, the company had already achieved a growth rate of 125%. The margin trend reflects the high scalability of the software, as licence revenues account for nearly 90% of group revenues. Additional revenues from a newly sold licence require much lower additional costs. This has a correspondingly positive impact on the income statement. The EBIT margin therefore rose from 13% in 2004 to nearly 57% in 2006. The fact that this increase in 2005 was not reflected 1:1 in the net profit is due to the company's legal form. Under IFRS, the limited partner capital of a partnership is not considered to be equity. Accordingly, in the 2005 financial statements it was classified as debt capital and reported in the income statement. The corresponding transfer had a negative impact of €1.8m on the income statement. If this effect is stripped out, the net margin would have been 27%. However, the corresponding offsetting entry in 2006 was booked directly in the equity capital account and therefore had no direct effect on the reported net profit for the year. The high net margin of 35% in FY 2006 was therefore achieved operationally.

# Record 56% EBIT margin in 2006, sharp drop in 2007

#### Group profit and loss overview 2004 to 2007 (IAS)

in €thsd	2004	2005	2006	2007
Revenue	1,752	3,953	8,342	7,892
Δ γογ		125.6%	111.0%	-5.4%
EBITDA	369	1,659	4,994	939
margin	21.1%	42.0%	59.9%	11.9%
EBIT	227	1,472	4,741	496
margin	13.0%	37.2%	56.8%	6.3%
EBT	106	1,075	4,477	487
margin	6.1%	27.2%	53.7%	6.2%
Net income	60	-846	2,935	132
margin	3.4%	-21.4%	35.2%	1.7%
			Source: M	eVis, LBBW

#### High number of licences sold in H1

Licence sales remain high in H1 2007

In H1 2007, there were already signs of a slowdown in revenue growth (+15% Y/Y) and a decline in the EBIT margin. However, this was not due to weakening momentum in licence sales. The number of licences sold in the group rose was 47% higher than in the comparable prior-year period. However, these growth rates were not reflected in revenues to the same degree. MeVis lowered the licence prices on a differentiated basis by product and region in H1 by up to 30%. We view this measure in part as a reaction to the dampening effect of the Deficit Reduction Act in the US on new equipment sales. We also see it as an incentive, in agreement with the OEMs, to introduce digital mammography systems in countries in which they have had no presence. However, in this connection management emphasised the exceptional nature of this price reduction and affirmed that no similar measures were to be expected in the foreseeable future.

# H1 2007: solid EBIT margin despite increase in head-count

In H1 2007, the EBIT margin in Digital Mammography was still a very creditable 56% despite the headwind from the weak US currency. However, the steep rise in the headcount following the step-up in the development of new products in the Other Diagnostics segment had a negative impact and weighed on the group return. Nevertheless, at 41% (H1 2006: 56%), this was still very high even for a software company. However, this development – a considerable increase in the numbers of employees with a view to launching new products more rapidly even at the expense of the EBIT margin – was planned by MeVis and communicated to investors.

## Slump in earnings in H2 2007 as a result of one-time effects

### Slump in revenues and earnings in H2 2007

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However, the slump in earnings in H2 2007 was largely due to negative factors that were not planned.

- The invoicing procedures of an important customer (Philips-Invivo) changed, which resulted in a one-time shift of licence payments (about €1 m) from Q4 2007 to fiscal 2008.
- Over 80% of revenues are generated in the US. As a result, the company suffered considerably from the soft US currency.
- The one-time price cut outlined above had a positive effect on the number of licences sold, but not to the extent that we had forecast.

In addition, there were expected negative factors in the wake of the IPO and the increase in staffing levels:

- High costs for the increase in personnel for new product developments, which again accelerated in comparison to H1, impacted negatively on group EBIT.
- The IPO expenses had an adverse effect on the operating result.

### Strong first quarter in 2008

#### Back on growth track in Q1 2008

After the revenue and earnings slump in H2 2007, MeVis reported very respectable revenue growth in Q1 2008. Revenues rose by 35% Y/Y to €2.4m despite strong headwind in the shape of the soft US currency. The number of licence sales even increased by 58% in the largest business segment Digital Mammography (75% of group revenues). In the smaller segment Other Diagnostics (mainly breast MRT and biopsies) sales numbers were up by 25%.

# High costs for product development

Under IAS, 47% of development costs for products that do not yet provide any revenue contributions were capitalised for the first time. However, the remaining 53% of R&D costs (mainly personnel costs; 100% increase in headcount Y/Y), against which there are no revenues, and staff hiring costs, weighed on the operating result.

# Q1 08: EBIT beats expectations

Nevertheless, MeVis reported EBIT that was higher than we had expected  $( \in 0.31 \, \text{m}; \text{ previous year: } \in 0.65 \, \text{m})$ . Group earnings profited from the high interest income and normalised tax rate and were therefore considerably higher than in the previous year  $( \in 0.39 \, \text{m}; \text{ previous year: } \in 0.21 \, \text{m})$ .

# Siemens JV growth and earnings driver

#### Revenues by segment

### Siemens JV key growth driver

A more detailed analysis of the historical data reveals that the Siemens joint venture (MeVis Breast Care) with the digital mammography software is the major revenue and earnings driver. In 2007, the revenue of MeVis Breast Care taken into account on a pro rata basis accounted for 70% of total group revenues. As a result of extensive investments for new products, which are all in the second Other Diagnostics segment, only the Digital Mammography segment provided a high positive EBIT contribution.

# Core business remains highly profitable

#### Revenue by segment

in €thsd	2004	2005	2006	2007
Digital mammographie				
Revenue	1,356	2,391	6,055	5,556
EBIT	89	763	3,713	2,778
EBIT-margin	7%	32%	61%	50%
Other investigations				
Revenue	387	1,562	2,287	2,336
EBIT	-25	539	857	-354
EBIT-margin	-6%	35%	37%	-15%
Consolidation				
Revenue	0	0	0	0
EBIT	161	170	171	-1,928
Group				
Revenue	1,743	3,953	8,342	7,892
EBIT	225	1,472	4,741	496
EBIT-margin	13%	37%	57%	6%

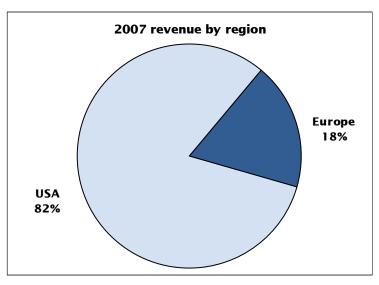
Source: MeVis, estimates segment-EBIT 2007 LBBW

# 60% margin in Digital Mammography again in 2007

Despite the fall in revenues in the core business segment Digital Mammography due to one-time price rebates and the softer US currency, the return in this segment was still a very respectable 50% or so. The decline in earnings is therefore largely attributable to the Other Diagnostics segment (increase in headcount for new products) and IPO costs (consolidation).

# Hologic is the most important customer

The biggest customer for evaluation software in digital mammography methods (Breast Care) is the US company Hologic. With a share of well over 50% also at group level, it is by far the most important customer. Siemens and Invivo (Philips) occupy the next two positions. As MeVis allocates revenues geographically according to the head office of the customer, the US is the most important sales region.

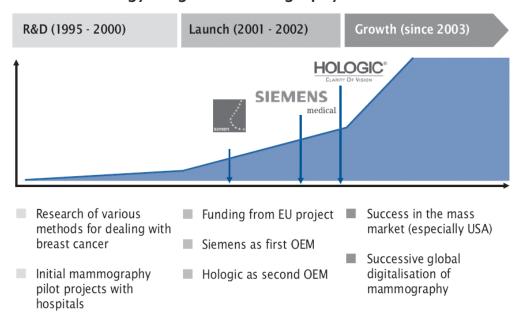


#### Source: MeVis, LBBW

# Mammography as blueprint for product expansion

In our view, the Digital Mammography segment also serves as a blueprint for the launch of new products. In the years 1995 to 2000, research was carried out on various technologies and on the required breast cancer diagnosis software and initial pilot projects were implemented. In the two years thereafter, the software application Breast Care was launched with the partner Siemens as the first customer, followed by Hologic as the second. Success in the mass market was achieved above all through Hologic.

# Product strategy - digital mammography



Source: MeVis AG

Licence price varies between €5,000 and €25,000

MeVis Breast Care GmbH was therefore able to report rising licence sales from quarter to quarter. Up to 2006, the average revenue per licence remained relatively stable. According to the company, the licence price varies between €5,000 and €25,000, which is attributable to the different individual types of licences (full or partial licence). We have already considered in detail the special effects (one-time price rebate for large customers, weak dollar), which resulted in revenues per licence falling sharply in 2007 (-44%).

# Price rebate and USD depress revenues per licence

BreastCare Workstation							
(€ thsd)	2004	2005	ΔVJ	2006	ΔVJ	2007	ΔVJ
Licence sales (units)	183	300	64%	937	212%	1,503	60%
Licence revenue	2,328	4,404	89%	10,892	147%	9,808	-10%
Revenue per licence	12.7	14.7	15%	11.6	-21%	6.5	-44%
Installed base	307	607	98%	1,544	154%	3,047	97%
Maintenance revenue	114	213	87%	725	241%	959	32%
Maint. rev./inst. licence (€)	462	454	-2%	411	-9%	347	-16%
Other	216	72	-67%	255	254%	131	-48%
Revenue Breastcare	2,658	4,689	76%	11,873	153%	10,898	-8%
MeVis portion (51%)	1,356	2,391	76%	6,055	153%	5,558	-8%

Source: MeVis, 2007 estimates LBBW

# Maintenance revenues are becoming more significant

As the installed base has grown, revenues generated by maintenance services have gained in significance. On the basis of data material available to us, we calculate annual average revenues of over €350 per installed licence. Overall, this now corresponds to a revenue contribution of about €300,000 per quarter.

### Dynamic trend in Breast MRT

Breast MRT, the product sold with Invivo as partner since 2004 which accounts for a large proportion of revenues in Mevis's second segment (Other Diagnostics) showed a similarly strong development. However, volumes are still at a much lower level than for the Breast Care Workstation, the company's main product. Moreover, the above-mentioned problem (change in invoicing procedures) arose in this segment in Q4, which resulted in revenues being shifted to the next financial year.

# Moderate assumptions for revenue growth

### Revenue planning

#### **Assumptions**

The forecast on future revenue trends is significantly influenced by companyspecific factors. Our detailed planning budget (up to 2010) is based on the following assumptions:

- ⇒ Flattening of the upward trend in Breast Care with slight fall in revenues per licence, conservative assumption regarding increased demand from Europe.
- $\Rightarrow$  CAGR 10-15% for Breast MRT.
- ⇒ Market launch of DynaCAD Neuro MRT in Q4 2008.
- ⇒ Market launch of DynaCAD Prostate MRT in Q1 2009.
- ⇒ Market launch of 3D breast ultrasound in H1 2009.
- ⇒ Market launch of breast tomosynthesis in H1 2009.
- ⇒ Acquired Visia CT Lung already generates first revenue.
- $\Rightarrow$  Faster launch of own CT lung products and merger with Visia CT Lung in mid-.2009.
- $\Rightarrow$  We have disregarded any new OEM customers.
- ⇒ Our estimates are based on a dollar/euro rate of 1.54.

## Europe could boost Breast Care Workstation revenues

	Existing	Possible new
Existing products	OEM cooperations	OEM cooperations
Breastcare Workstation (JV)	Hologic, Siemens	not possible*
Breast MRT and Biopsy	PhInvivo, Siemens	Hitachi, Toshiba, (GE)
Others (Preop. plan.,etc.)	100 hospitals	further hospitals

<sup>\*</sup>exclusive contracts with JV partners Siemens and Hologic

#### Source: LBBW

#### **Breast Care Workstation**

In our view, there is still plenty of scope for growth in digital mammography. Two reasons support this view. First, systems using this technology still account for a low share of the total number of installed machines. Second, there is increasing awareness of the advantages of early detection of breast cancer in countries that so far still have much lower screening numbers than the US for example. Thanks to its alliances with the leading companies in this field, MeVis will continue to profit from this trend. However, it will probably be unable to maintain the past rate of growth - in Q1 2008 the number of installed Breast Care workstations rose by 58% Y/Y. We expect the number of licences sold to rise by almost 38% to over 2,000 by the end of 2008. The high base in H2 2007 in particular means that the rate of growth should already slow in the second half of the current financial year. As there will then be a considerably higher proportion of digital mammography systems in the US, we expect markedly lower growth rates of 14% (2009) and 10% (2010) in the following two years. However, we have made very conservative assumptions regarding demand in Europe - in many countries the share of digital mammography systems is less than 25%. In our view, the average revenue per licence should tend to fall slightly and as a result overall licence revenues are unlikely to rise as fast as the number of sold licences.

# Slowdown in licence sales but stabilisation of revenues per licence

#### **BreastCare Workstation**

Dieasicale Workstation								
(€ thsd)	2007	ΔVJ	2008e	ΔVJ	2009e	ΔVJ	2010e	ΔVJ
Licence sales (units)	1,503	60%	2,067	38%	2,357	14%	2,592	10%
Licence revenue	9,808	-10%	11,222	14%	12,255	9%	13,221	8%
Revenue per licence	6.5	-44%	5.4	-17%	5.2	-4%	5.1	-2%
Installed base	3,047	97%	5,114	68%	7,471	46%	10,063	35%
Maintenance revenue	959	32%	1,301	36%	1,982	52%	2,648	34%
Maint. rev./inst. licence (€)	347	-16%	325	-6%	315	-3%	302	-4%
Other	131	-48%	160	22%	185	16%	196	6%
Revenue Breastcare	10,898	-8%	12,683	16%	14,422	14%	16,065	11%
MeVis portion (51%)	5,558	-8%	6,469	16%	7,355	14%	8,193	11%

Source: MeVis, 2007 estimates LBBW

Thanks to a 68% rise in the number of installed systems, maintenance revenues should increase by a considerable 36%. Licensing revenues should also increase by 14% even though the US currency is still markedly weaker than in the previous year. In addition, the effect of the price reduction will no longer apply in 2008. In the case of the JV with Siemens – by far the most important segment – we therefore expect on balance revenue growth of over 16% this year. We consider increases of 14% and 11% to be realistic in 2009 and 2010. Above all rising maintenance revenues and a stable dollar (according to our assumptions) will have a positive impact.

#### **Breast MRT and biopsy**

Sales of the software solution for female breast diagnosis using magnetic resonance methods (Breast MRT), the second most important segment of MeVis AG, are likely to show similarly strong growth as in the case of Breast Care. However, in absolute terms, sales are unlikely to reach the volumes of the latter in the foreseeable future.

The reason underlying this assumption is the lack of a mass market for this application. The more expensive MRT method is used for breast diagnosis only for risk patients and women with dense breast tissue. We expect the number of sold software licences to increase by 61% this financial year. However, one half of the growth results from shifts in revenues from Q4 2007 into 2008. In Q4 2007, virtually no revenues were booked following the changed invoicing procedures of one customer. In addition, sales numbers should profit in 2008 from a new release for which a licence is required. In the two following years, momentum should decline (2009: +12%, 2010: +9%).

# 61% growth in licences sold in 2008

### Revenue planning Breast MRT and Biopsy

· · · · · · · · · · · · · · · · · · ·	-	-					
	2007	2008e	ΔVJ	2009e	ΔVJ	2010e	ΔVJ
Licence sales (units)	239	385	61%	432	12%	470	9%
Revenue per licence (€ thsd)	8.4	6.3	-25%	6.1	-4%	5.9	-3%
Licence revenue (€ thsd)	2,008	2,438	21%	2,633	8%	2,776	5%
Installed base	567	952	68%	1,384	45%	1,854	34%
Maint. rev./inst. licence (€)	182	168	-8%	158	-6%	151	-4%
Maintenance revenue (€ thsd)	91	135	48%	164	21%	223	36%
Revenue (€ thsd)	2.099	2.573	23%	2.797	9%	2.999	7%
revenue (& msu)	2,055	2,3/3	23%	2,/9/	370	2,333	1 70

Source: LBBW

In this segment, the weak US currency is also weighing heavily on revenues per licence (2008e: -25%). Including maintenance revenues, we expect on balance revenue growth of 23% in 2008. In our opinion, revenues could rise by 9% in 2009 and by 7% in 2010.

# Highly promising product pipeline

#### **Product pipeline:**

	20	008e		2009e			Exixting	Possible new	
Product pipeline	Q3e	Q4e	Q1e	Q2e	Q3e	Q4e	OEM-partner	OEM-partner	
Neuro MRT							Philips-Invivo	Siemens, Hitachi	
Prostate MRT							Philips-Invivo	Hitachi, Toshiba, (GE)	
3D-Breast Ultrasound							U-systems, N.N.	PInvivo, Siemens	
Breast Tomosynthes.							Hologic, Siemens	Hitachi, Toshiba, (GE)	
Visia CT Lung*							Toshiba, N.N.	PInvivo, Hitachi, (GE)	
3D-CT Lung									

\*akquiriered from Hologic

Source: LBBW

The forecast on the revenue contributions of the products still in the pipeline is of course subject to much greater uncertainty. While we have no exact details from management on the planned period of the market launches, we do have first indications on the timing of the market launches.

# Two product launches expected in 2008

Management assumes that at least two new products will be launched in 2008. The typical sales target per product is 50 licences in the first year followed by 100 in year two. Our budget plan for 2008 is based on the market launch of Visia CT Lung and Neuro MRT. Prostate MRT, 3D ultrasound breast and breast tomosynthesis are likely to come to market in 2009. Accordingly, their impact – and that of the possible launch of further products – will have somewhat less influence on revenue and earnings in our detailed budget period. We have deliberately taken a conservative approach both with regard to the timing of the market launch and to the forecast revenues (per licence).

#### **Revenue planning Neuro MRT**

	2008e	2009e	ΔVJ	2010e	ΔVJ	2011e	ΔVJ
Licence sales (units)	15	58	285%	103	79%	164	59%
Revenue per licence (€ thsd)	18.0	15.5	-14%	12.8	-17%	10.5	-18%
Licence revenue (€ thsd)	270	895	232%	1,323	48%	1,726	30%
Installed base	15	73	385%	176	142%	340	93%
Maint. rev./inst. licence (€)		200	n.m.	175	-13%	160	-9%
Maintenance revenue (€ thsd)	0	5	n.m.	16	208%	33	105%
D (C 4ll)	270	000	2220/	1 240	400/	1 750	210/
Revenue (€ thsd)	270	900	233%	1,340	49%	1,759	31%

Source: LBBW

## Huge potential for Visia CT Lung

#### Revenue planning Visia CT Lung

	2008e	2009e	ΔVJ	2010e	ΔVJ	2011e	ΔVJ
Licence sales (units)	46	108	135%	190	76%	299	57%
Revenue per licence (€ thsd)	19.0	1 <i>7</i> .1	-10%	15.0	-12%	12.9	-14%
Licence revenue (€ thsd)	874	1,849	112%	2,863	55%	3,866	35%
Installed base	46	154	235%	344	123%	643	87%
Maint. rev./inst. licence (€)		250	n.m.	230	-8%	216	-6%
Maintenance revenue (€ thsd)	0	17	n.m.	44	161%	87	98%
Revenue (€ thsd)	874	1,865	113%	2,907	56%	3,953	36%

Source: LBBW

As the above two tables show, we expect the market launch of the software solution Neuro MRT for human brain analysis in 2008 (probably not until Q4). The first revenues from the acquired product Visia CT Lung were probably already generated in Q3 and should provide an appreciable revenue contribution in Q4. However, the revenue contribution of the two products overall should be fairly limited in the first launch year, but in 2009 should total nearly €3m. The prostate MRT, breast tomosynthesis and 3D breast ultrasound applications as well as a further 3D CT lung product are not due until 2009.

### Other factors

Besides the above factors that we consider significant for future revenue trends, we have combined the extension of the diagnostic possibilities in preoperative planning (to the brain, pancreas, kidney and lung), the PACS activities and the possible introduction of new CT applications (e.g. kidney). This combination must not be seen as being equivalent to a lack of market volume. In particular the software for diagnosis of organs such as the kidney could achieve significant volumes after a market launch in 2010. If MeVis also succeeds in gaining a further major OEM or a significant PACS provider as customer, our revenue forecast represents a fairly conservative assumption.

# Breast care volume business Visia growth driver

#### **Revenue planning for MeVis**

(€ m)	2007	2008e	ΔVJ	2009e	ΔVJ	2010e	ΔVJ	2011e	ΔVJ
BreastCare Workst.	5.6	6.5	16%	7.4	14%	8.2	11%	8.8	7%
Breast MRT and Biopsy	2.1	2.6	23%	2.8	9%	3.0	7%	3.2	6%
3D Breast Ultrasound				0.4	n.m.	0.6	59%	0.8	43%
Breast Tomosynthesis				0.7	n.m.	1.2	61%	1.7	43%
Neuro MRT		0.3	n.m.	0.9	233%	1.3	49%	1.8	31%
Prostate MRT				0.8	n.m.	1.2	53%	1.5	26%
Visia CT Lung		0.9	n.m.	1.9	113%	2.9	56%	4.0	36%
3D-CT Lung				0.3	n.m.	0.8	147%	1.4	77%
Others	0.2	0.3	11%	0.4	36%	0.5	27%	0.6	19%
Group	7.9	10.5	32%	15.5	48%	19.7	27%	23.6	20%

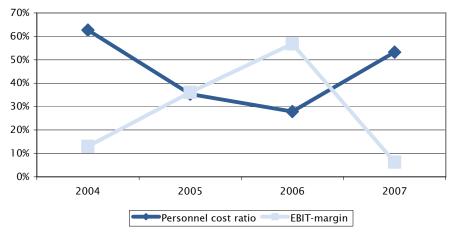
Source: LBBW

# **Cost budgeting**

### Employees are the most important cost factor

As is usual in the case of software companies, personnel expenses are a significant cost factor in the income statement. At MeVis AG, this factor is especially pronounced as a result of the high significance of R&D expenses and fluctuates considerably in connection with R&D intensity. In the historical numbers, this impacted fully on results because development expenses were not capitalised.

#### Personnel expenses and EBIT as % of revenue



Source: MeVis, LBBW

Against this background, in forecasting the future cost burden and thus the operating results we focus on the growth in the number of employees and the related additional personnel costs. At the end of Q1 2008, MeVis had 139 employees (including 37 testing staff with part-time jobs), 93% more than in the previous year; less than one-third were employed in MeVis Breast Care, which was taken into account on a pro rata basis. On the basis of the number of employees as of the end of Q1 2008, we expect MeVis will have 136 employees at the end of the current financial year (10 testing employees equate to 1 fulltime job). The

# Expansion of workforce should slow down in 2009

development projects aimed at accelerating the launch of new products have already made good progress thanks to the recently hired staff. As a result, the increase in the headcount is expected to slow considerably in 2009 and 2010. Accordingly, we expect personnel expenses to rise only moderately. In our budget planning, we assume that the salary level will remain at an average of over €64,000 per employee.

#### Development of headcount and personnel costs

	2006	2007	2008e	2009e	2010e
full time jobs year end	46	80	136	157	172
average staff	43	67	108	146	165
costs per employee (€ thsd)	54	63	64	64	64
personnel costs (€ thsd)	2.325	4.202	6.894	9.315	10.544
Δ yoy	66%	81%	64%	35%	13%

Source: MeVis AG, LBBW

### Capitalisation of development costs from 2008

However, from 2008 personnel expenses will no longer be fully reported in the income statement. Under IAS 38, development expense has to be capitalised as an intangible for the first time and written off from the market launch of the product in question over two years in line with the product life cycle (of the respective release). On the basis of historical data, this will have a noticeably positive effect on the result above all in 2008. R&D expenses made up the large part of total personnel expenses in 2007. A capitalisation of up to 45% of the personnel expenses can be expected. As we do not expect Visia CT Lung and Neuro MRT to be launched until Q3 or Q4 2008, the writedowns of capitalised development costs are likely to remain at a very low level in 2008. On balance, we thus expect expenses to be reduced by nearly €1m in 2010 as a result of capitalisation. As from 2011, this effect will get less important, as the amortisation period covers a full 12 months and new products are due to be launched.

# R&D capitalisation and amortization should equalize in the long run

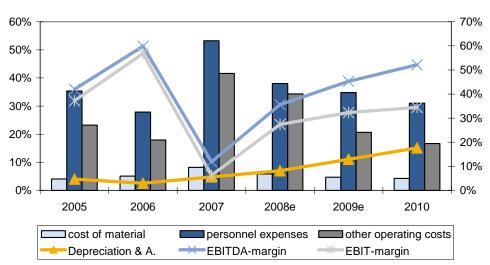
### Effects of capitalisation of development costs on P&L

	2006	2007	2008e	2009e	2010e
personnel costs (€ thsd)	2.325	4.202	6.894	9.315	10.544
Capitalisation (42%)	0	0	2.896	3.912	4.428
personnel costs P&L (€ thsd)	2.325	4.202	3.999	5.402	6.115
Amortization of capital. R&D	0	0	380	1.520	2.785
Net effect (€thsd)	0	0	-2.516	-2.392	-1.643

Source: MeVis AG, LBBW

On balance, we therefore expect the personnel expense ratio to fall, although this will be offset again over time by the rising writedowns of capitalised development costs. Cost of materials is likely to fall below 5% of revenues again in the future, while we believe that the other operating expenses peaked in 2008 (one-time costs for staff hiring, fees for advisers, etc.) and should increase at a much slower rate than revenues.

### **Expense ratios and margins**



Source: MeVis, LBBW

### Earnings forecast for the detailed budget planning period

Taking into account our estimates on budgeted revenues and personnel expenses explained above, we assume a tax rate of 29% and the following revenue and earnings development.

**P&L MeVis** 

€ m	2006	2007	2008e	2009e	2010e
Revenue	8.3	7.9	10.5	15.5	19.7
∆ yoy	111%	-5%	33%	48%	27%
EBITDA	5.0	0.9	3.7	7.0	10.3
margin	60%	12%	36%	45%	52%
EBIT	4.7	0.5	2.9	5.0	6.8
margin	57%	6%	27%	32%	35%
EBT	4.5	0.5	4.0	6.0	7.9
margin	54%	6%	38%	39%	40%
Net Profit	2.9	0.1	2.8	4.3	5.6
margin	35%	2%	26%	28%	28%

Source: MeVis AG, LBBW

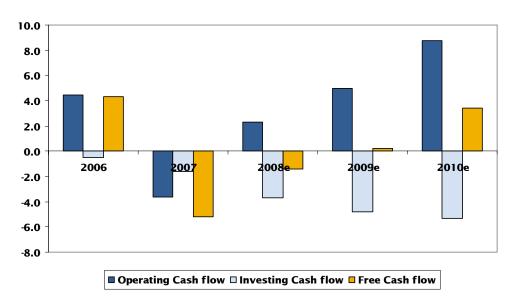
## R&D investments financed largly by operating cash flow

# Capex, balance sheet and cash flow

The investment activity of MeVis is largely dominated by investments in the development of new products and is reflected in intangible assets as capitalised development expenses. As a result of the short two-year writedown period, this effect is relatively quickly offset again in the cash flow statement.

In 2007, capex was only € 1,6 m as R&D expenses were not capitalised. It is likely to rise to a good € 3.7m in 2008 (without acquisitions). We expect further growth to some € 4.8 m in 2009. However, in our view the operating cash flow, which is mainly determined by net income, will finance these investments in 2009 largely. Accordingly, MeVis should generate a considerable positive free cash flow despite investing in future growth in 2010 already.

#### Cash flow-development (€m)



The expected dynamic earnings and cash flow trends are reflected in our projected balance sheet ratios. In 2009, the equity ratio should remain unchanged on 2008 at 85%, while net liquidity is likely to decrease in the same period to approx. €23m due to the slightly negative free cash flow, the acquisition of Visia CT Lung and the stock buyback.

# Further small acquisitions planned

# Use of IPO proceeds

As described above, the IPO proceeds serve to secure the planned investment activity (increase in headcount to accelerate product development). We believe that MeVis will be able to finance the investments already announced almost entirely internally. However, the cash inflows should accelerate the market launch of the products that are well advanced in development. Moreover, the MeVis management believes there are huge opportunities to successfully place new products especially in the significant pneumology and neurology markets. Without the expected IPO proceeds, the company will hardly be able to accelerate the increase in the number of employees and thus the faster increase in the product pipeline. In addition, the company has already been able to make an interesting acquisition in the lung segment (Visia CT Lung from Hologic) on the back of the fund inflows. Further smaller acquisitions – for example in cardiologoy – are likely to follow. In addition, the IPO sharpened the company's profile as an independent software maker, without which expansion outside the Siemens JV appears difficult.

## **Valuation**

### Discounted cash flow valuation

#### Two-phase model

To take sufficient account of the long-term growth prospects, we value MeVis AG on the basis of a discounted cash flow model (DCF). Our DCF model is divided into two phases:

- Phase 1 2007 to 2016 is our detailed budget planning period for which definite revenue and earnings budgets are available.
- Phase 2 follows on from the end of the budget period and is taken into account through the terminal value. We assume a growth rate of 2,5%.

DCF-model - assumptions	
risk-free interest	4.3%
Market risk premium	5.3%
Beta factor	1.30
Cost of equity	11.2%
Cost of debt (after tax)	3.7%
Equity ratio (market value)	85%
WACC	10.1%
Terminal growth rate	2.5%

Source: LBBW

#### Further key assumptions

In addition, we have made the further following key valuation-relevant assumptions:

- The beta of 1.3 we have used is a fundamental beta that we have estimated. We have thereby taken into account the risks resulting from the still very concentrated product and customer structure.
- WACC amount to 10.1% and are based on a target equity ratio of 85%.
- Revenue growth slows in phase 1 from 48% (2009e) to 4.5% (2016e).
  - The EBIT margin drops from 35% (2010e) to 25% (2016e), which we attribute to a longer-term normalisation of the market in which MeVis operates. MeVis does not operate in a competition-free environment and, in our view, a sustained EBIT margin of 35% could only be justified if we were to grant the company a monopoly position.

Free Cashflow (€ m)	2007	2008e	2009e	2010e	2011e	2012e	2013e	2014e	2015e	2016e
Sales	7.9	10.5	15.5	19.7	23.6	27.5	31.5	35.4	38.3	40.1
Growth (yoy)	-5.4%	33.2%	47.7%	27.0%	19.8%	16.5%	14.5%	12.4%	8.3%	4.5%
EBIT	0.5	2.9	5.0	6.8	8.3	8.8	10.0	10.7	11.5	10.0
EBIT-Margin	6.3%	27.4%	32.3%	34.5%	35.0%	32.1%	31.7%	30.1%	30.0%	25.0%
- EE taxes on EBIT	0.4	0.9	1.5	2.0	2.4	2.6	2.9	3.1	3.3	2.9
Tax rate	78.9%	30.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%	29.0%
+ Depreciation and amortizati	0.4	0.9	2.0	3.5	4.7	6.2	7.0	7.8	8.4	8.8
of sales	5.6%	8.2%	13.0%	17.6%	19.9%	22.4%	22.4%	22.1%	22.0%	22.0%
Provisions	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
of revenues	0.6%	0.8%	0.6%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%
+ change in provisions	-0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01
= Operating Cashflow	0.5	2.9	5.6	8.3	10.6	12.4	14.1	15.4	16.6	15.9
- Capital expenditure	1.5	3.7	4.8	5.3	6.1	6.4	7.0	7.8	8.4	8.8
of sales	18.8%	35.4%	30.8%	27.1%	25.6%	23.1%	22.2%	22.2%	22.0%	22.0%
Net Working Capital	1.3	2.7	4.0	4.4	5.0	5.8	7.0	7.8	8.4	8.8
of sales	17.0%	25.3%	25.6%	22.1%	21.4%	21.1%	22.2%	22.1%	22.0%	22.0%
- change in Net Working Capit	4.2	1.3	1.3	0.4	0.7	0.8	1.2	0.8	0.6	0.4
= Free Cashflow	-5.2	-2.1	-0.5	2.6	3.8	5.3	6.0	6.7	7.6	6.7
Present Value	-5.0	-2.1	-0.5	2.1	2.8	3.5	3.6	3.6	3.7	3.0

source: LBBW

# DCF: Fair value of € 49 per share

# DCF valuation produces fair value of €84m

On the basis of the assumptions outlined above, we arrive at a fair value of €84m for the equity of MeVis G.

Calculation of fair value (€ m)	
Present value of Free Cashflow planning years	20
+ Present value of Terminal Value	42
= Enterprise Value	62
Share of TV in Enterprise Value	67.9%
- Net financial debt	- 23
=Fair vlaue	84
Number of shares	1.74
= Fair value per share	48.5
	C LDDV

Source: LBBW

The value we have calculated varies between €73m and €91m if we change the average costs of capital and/or the long-term growth rate by 1 percentage point or 0.5 percentage points.

DCF-Valuation			WACC	
Sensivity analysis		9.1%	10.1%	11.1%
	2.0%	84	78	73
Terminal growth rate	2.5%	87	84	75
	3.0%	91	83	77
			Sour	ce: LBBW

# Competitors have much lower earnings momentum

# Multiplikatorvaluation

#### PeerGroup

With regard to the valuation of MeVis on the basis of the market valuation of comparable companies, the following points must be borne in mind:

- 1. Most of the direct competitors are either not listed or have no consensus estimates. Most of the peer group consists of companies that operate elsewhere in the value chain.
- 2. Most of the peer group companies have considerably lower margins and lower earnings momentum than we have assumed for MeVis AG..

Against this background, we have taken the following six companies for a peer group valuation:

#### Vital Images Inc

Vital Images writes software for medical imaging and the analysis and processing of such imaging. This is supplemented by a range of services (maintenance, training) and hardware products. Vital Images acts as reseller in the case of the hardware. The company focuses on the major customers Toshiba and McKesson, which together account for more than 50% of group revenues. In the current fiscal year, we expect revenues of \$68.5m. Hower, due to currently high losses it does not make sense to include the company in our Peer group valuation for the time being.

# Hologic is MeVis most important customer

#### **Hologic Inc**

The US company Hologic specialises in manufacturing diagnostic imaging systems for breast cancer and osteoporosis. In the current fiscal year, the breast cancer diagnostic systems should account for about 50% of group sales of \$1670m. Thanks to numerous acquisitions and organic growth, the group has reported very strong revenue and earnings growth in the more recent past.

### **Alliance Imaging Inc**

The focus of Alliance Imaging's operations is on providing medical imaging services. The company is not focused on any special technical method. With mostly smaller and medium-sized clinics in the US, Alliance should generate revenues of about \$493m in 2008.

#### **Varian Medical Systems Inc**

Varian is one of the world's leading manufacturers of medical equipment for the treatment of cancer and other diseases using radiation therapy, brachytherapy and radiosurgery. The company also offers x-ray tubes and digital detectors for imaging in medical, scientific and industrial applications. With about 4,000 employees, Varian should generate revenues of some \$2bn this fiscal year.

#### Sectra AB

Sectra is a leading provider of PACS solutions (picture archiving and communication system) and offers imaging equipment for mammography and orthopaedics. In addition, the company offers security technologies for the communications industry. However, the focus is on medical applications, which accounted for 90% of group sales revenues of SEK 950m 2008e.

### RaySearch Lab AB

RaySearch is a pure developer of software designed to manage radiation treatment of cancer patients. The most important customers and partners are Philips and Nucletron. In 2008, revenues should amout to approx. SEK 80m.

#### Derivation of the fair valuation range for MeVis

Multiplying the expected revenues of MeVis AG by the multiples of the peer group produces a fair value of the MeVis AG share in the range of €35 to €41. However, we consider this range is of only limited meaning given the above-average profitability of MeVis (EBIT margin 2010e: MeVis AG 35%, peer group 19%). In addition, MeVis is put at a disadvantage in a peer group comparison up to 2010 by its high investment in products that will generate revenues only in later years. We do not consider PER-ratio as a suitable comparison with competitors too as it does not take into account that MeVis has a high net cash position. The valuation per share on the basis of the EV/EBIT and P/E multiples is € 48 on average. A discount of 10% because of the low market capitalization is justifiable. However, due to the solid growth prospects we only take a discount of 5% which implies a fair value of € 46 per MeVis share.

Peer Group	share pr.	EV	EV	/ Revenu	ıe	Е	V / EBIT			PER	
•	19.08.08	(m LC)	2008e	2009e	2010e	2008e	2009e	2010e	2008e	2009e	2010e
Vital Images (\$)	15.4	90	1.3	1.2	1.0	-8.2	-12.8	-64.1	-64.2	-308.0	77.0
Hologic (\$)	20.4	7,350	4.4	4.1	3.6	13.6	12.5	10.5	17.3	34.2	31.9
Alliance Imaging (\$)	11.2	1,107	2.2	2.1	2.0	14.1	12.2	11.3	29.3	23.2	21.0
Varian Med. Syst. (\$)	64.1	7,695	3.7	3.3	2.9	19.2	16.1	13.8	28.9	25.5	23.0
Sectra AB (SEK)	57.0	1,649	1.7	1.5	1.3	12.7	9.3	7.0	22.6	16.7	14.3
RaySearch Lab (SEK	21.8	402	4.9	2.9	2.4	14.3	10.3	8.9	33.5	17.4	11.7
Median			3.7	2.9	2.4	14.1	12.2	10.5	28.9	23.2	21.0
Average			3.4	2.8	2.5	14.8	12.1	10.3	26.3	23.4	20.4
									Sour	ce: LBBW	, I/B/E/S

Deviation of the valuation range	EV	/ Revenu	ıe	E	V / EBIT			PER	
for MeVis	2008e	2009e	2010e	2008e	2009e	2010e	2008e	2009e	2010e
Median-Multiple Peer Group	3.7	2.9	2.4	14.1	12.2	10.5	28.9	23.2	21.0
MeVis results	10.5	15.5	19.7	2.9	5.0	6.8	1.6	2.5	3.2
Implied value MeVis EV	38.8	44.3	48.0	40.6	61.4	71.7			
MeVis Net debt (- Net Cash)	-22.5	-22.5	-22.5	-22.5	-22.5	-22.5			
Implied value of MeVis Equity	61.3	66.8	70.5	63.1	83.9	94.2	46.2	57.1	68.0
Fair value per MeVis share	35.2	38.4	40.5	36.3	48.2	54.2	26.5	32.8	39.1

Source: LBBW, I/B/E/S

# Rating Buy, Price target € 49

### Valuation - conclusion

On the basis of the average of EV/EBIT 2008e – 10e the comparison of multiples produces a value of  $\[ \in \]$ 46 per share, although we do not believe that this adequately reflects the expected growth momentum of MeVis. We have a fair value for MeVis of  $\[ \in \]$ 49 per share from the discounted cash flow method that takes the growth prospects into account. Against this background we rate the stock a Buy with a price target of  $\[ \in \]$ 49.

# **Appendix**

# P&L

	12/2005	12/2006	12/2007	12/2008e	12/2009e	12/2010e
	m	m	m	m	m	m
Sales	4.0	8.3	7.9	10.5	15.5	19.7
% change	125.6	111.0	(5.4)	33.2	47.7	27.0
Change in inventories and own work capitalised	0	0	0	0	0	0
Total output	4.0	8.3	7.9	10.5	15.5	19.7
	100.0	100.0	100.0	100.0	100.0	100.0
Cost of materials	-0.2	-0.4	-0.7	-0.6	-0.7	-0.8
Personnel expenses	-1.4	-2.3	-4.2	-4.0	-5.4	-6.1
Other operating income	0.2	0.9	1.2	1.5	0.9	0.8
Other operating expenses	-0.9	-1.5	-3.3	-3.6	-3.2	-3.3
Restructuring costs	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	1.7	5.0	0.9	3.7	7.0	10.3
% margin	42.0	59.9	11.9	35.6	45.3	52.1
Depreciation	-0.2	-0.3	-0.4	-0.9	-2.0	-3.5
EBIT	1.5	4.7	0.5	2.9	5.0	6.8
Financial result	-0.4	-0.3	0.0	1.1	1.0	1.1
Profit from ordinary activities	1.1	4.5	0.5	4.0	6.0	7.9
Extraordinary items	-1.8	0.0	0.0	0.0	0.0	0.0
Profit before income tax	-0.8	4.5	0.5	4.0	6.0	7.9
Income tax	-0.1	-1.5	-0.4	-1.2	-1.7	-2.3
Tax rate (%)	n/m	34.4	72.9	30.0	29.0	29.0
Continued operations before minorities	-0.8	2.9	0.1	2.8	4.3	5.6
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0
Continued operations	-0.8	2.9	0.1	2.8	4.3	5.6
Discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0
Net income after minorities	-0.8	2.9	0.1	2.8	4.3	5.6
% change	n/m	n/m	(95.5)	n/m	53.6	30.9
Number of shares	1.3	1.3	1.8	1.7	1.7	1.7
Net profit per ordinary share (€)	(0.65)	2.26	0.07	1.60	2.46	3.23
% change	n/m	n/m	(96.9)	n/m	53.8	31.3

## **Balance**

Assets	12/2005	12/2006	12/2007	12/2008e	12/2009e	12/2010e
	€m	€m	€m	€m	€m	€m
Longterm assets	0.6	1.3	2.9	9.3	12.3	14.2
Intangible assets	0.3	0.4	1.4	6.9	9.5	11.1
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	0.1	0.3	0.4	1.0	1.2	1.4
Financial assets	0.0	0.0	0.0	0.0	0.0	0.0
Other assets	0.0	0.0	0.0	0.0	0.0	0.0
Deferred taxes	0.2	0.6	1.1	1.4	1.7	1.7
Shortterm assets	3.5	7.9	32.7	30.0	31.7	36.0
Inventories	0.0	0.0	0.0	0.0	0.0	0.0
Trade accounts receivable	1.0	1.9	2.6	3.1	3.7	3.9
Other assets	0.5	0.5	1.6	3.0	3.8	4.4
Securities	0.0	0.0	0.0	0.0	0.0	0.0
Liquid assets	2.0	5.4	28.5	24.0	24.2	27.7
Assets from sales financing	0.0	0.0	0.0	0.0	0.0	0.0
Asstes from discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0
Total assets	4.1	9.1	35.6	39,3	44.0	50.2

### Liabilities and shareholders' equity

Shareholders' equity	-0.3	2.7	30.8	33.6	37.8	43.4
in % of total liabilities	-6.9	29.1	86.5	85.4	85.9	86.5
Subscribed capital	1.3	1.3	1.8	1.8	1.8	1.8
Unissued shares	0.0	0.0	-1.5	-0.1	-0.1	-0.1
Additional paid-in capital	0.5	0.0	28.3	28.3	28.3	28.3
Retained earnings	0.0	1.4	2.3	3.6	7.9	13.4
Unappropriated loss	-2.1	0.0	0.0	0.0	0.0	0.0
Other comprehensive income	0.0	0.0	0.0	0.0	0.0	0.0
Discontinued operations equity	0.0	0.0	0.0	0.0	0.0	0.0
Minority interests	0.0	0.0	0.0	0.0	0.0	0.0
Profit-sharing certificates	0.0	0.0	0.0	0.0	0.0	0.0
Longterm liabilities	2.2	0.6	0.7	0.8	0.8	0.8
Provisions for pensions	0.0	0.0	0.0	0.0	0.0	0.0
Other provisions	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities	2.2	0.6	0.7	0.8	0.8	0.8
Other liabilities	0.0	0.0	0.0	0.0	0.0	0.0
Deferred taxes	0.0	0.0	0.0	0.0	0.0	0.0
Shortterm liabilities	2.2	5.9	4.1	5.0	5.5	6.0
Other provisions	0.3	0.1	0.1	0.1	0.1	0.1
Financial liabilities	1.0	0.0	0.2	0.2	0.2	0.2
Trade accounts payable	0.3	0.4	0.7	0.9	1.3	1.6
Other liabilities	0.6	5.4	3.3	3.9	3.9	4.1
Liabilities from sales financing	0.0	0.0	0.0	0.0	0.0	0.0
Discontinued operations liabilities	0.0	0.0	0.0	0.0	0.0	0.0
Total liabilities and shareholders' equity	4.1	9.1	35.6	39.3	44.0	50.2

Cash flow	12/2005 EUR m	12/2006 EUR m	12/2007 EUR m	12/2008e EUR m	12/2009e EUR m	12/2010e EUR m
Note to a constitution of the constitution						
Net income before minorities	-0.8	2.9	0.1	2.8	4.3	5.6
Depreciation	0.2	0.3	0.4	0.9	2.0	3.5
Change in provisions	0.2	-0.2	0.0	0.0	0.0	0.0
Change in Working capital	-0.5	4.0	-3.7	-1.0	-1.0	-0.3
Change in deferred taxes	-0.1	-0.4	-0.5	-0.3	-0.3	0.0
Change in assets from discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0
Operating cash flow	-1.0	6.5	-3.6	2.3	5.0	8.7
Investment in intangible assets	-0.3	-0.2	-1.1	-6.1	-4.3	-4.8
Investment in fixed assets	-0.1	-0.3	-0.3	-0.8	-0.5	-0.6
Investment in financial assets	0.0	0.0	-0.1	0.0	0.0	0.0
Divestments / Consolidation effects	0.0	0.0	-0.1	0.0	0.0	0.0
Cash flow from investing activities	-0.4	-0.5	-1.6	-6.9	-4.8	-5.3
Proceeds from share issues	0.5	-0.5	28.8	-1.5	0.0	0.0
Dividend	0.0	0.0	0.0	0.0	0.0	0.0
Change in financial liabilities	0.9	-2.6	0.3	0.1	0.0	0.1
Change in assets from sales financing	0.0	0.0	0.0	0.0	0.0	0.0
Change in liabilities from discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing activities	1.4	-3.2	29.1	-1.5	0.0	0.1

#### Appendix-1

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Percentage of companies within this rating category						
Buy	Hold	Sell				
58,2%	32,0%	9,8%				

#### **Rating History**

Date	Rating
08/21/2008	Buy