# co.don

(CDAX, Health Care)

WARBURG RESEARCH

| Buy | |
|---|---|
| EUR 4.40 | |
| Price | EUR 3.35 |
| Upside | 31.4 % |

| Value Indicators: | EUR |
|---|---|
| DCF: | 4.37 |

| Share data: | |
|---|---|
| Bloomberg: | CNWK GR |
| Reuters: | CNWKk |
| ISIN: | DE000A1K0227 |

**Description:**

co.don develops, manufactures and distributes biopharmaceutical articular cartilage.

| Market Snapshot: | EUR m |
|---|---|
| Market cap: | 46.0 |
| No. of shares (m): | 13.7 |
| EV: | 44.2 |
| Freefloat MC: | 20.2 |
| Ø Trad. Vol. (30d; EUR): | 108.79 th |

| Shareholders: | |
|---|---|
| Freefloat | 44.0 % |
| Dr. Bernd Wegener | 19.3 % |
| Osemifaro Investments | 14.6 % |
| Transnova Investments | 14.6 % |
| Klaus Stuffer | 3.6 % |

| Risk Profile (WRe): | 2014e |
|---|---|
| Beta: | 1.7 |
| Price / Book: | 11.0 x |
| Equity Ratio: | 62 % |

## Cell-based growth in the lab - Initiate with Buy

**co.don AG is a fast-growing biopharmaceutical manufacturer of tissue transplants** with a focus on tissue engineering. The company's work involves the individual cultivation of tissue in the laboratory. The tissue manufacture begins with the patient's own body cells. co.don is specialised in the manufacture of joint cartilage and intervertebral disc cartilage which can be used for the regeneration of joints. co.don can offer patients an alternative to traditional joint replacements (e.g. metal implants) which can present considerable risks in their implementation (e.g. infections, allergies).

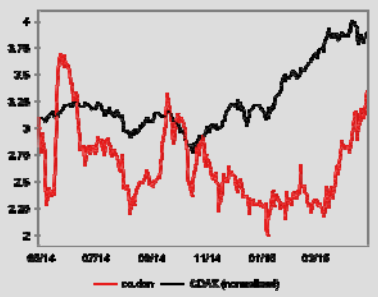
**Promising prospects for knee indication:** The clinical Phase-III trial on the effectiveness and safety of co.don's product co.don chondrosphere is necessary for the achievement of the EU-wide approval. A successful final evaluation of the study's results is expected for c. 2020, although authorisation by the EMA (European Medicines Agency) could already take place in 2017. The fact that co.don chondrosphere was already approved for national distribution by the Paul Ehrlich Institut (PEI) at the end of 2013 poses a large advantage. This allowed for around 1,200 procedures to take place in 2014e (WRe). As a result of this limited authorisation, co.don is already in a position to reach revenues of some EUR 4.5m (WRe); something which represents a risk reduction for investors.

**Fully financed until planned approval:** Further investment requirements for the mentioned approval are currently estimated at EUR 4.8m (WRe). With the capital increase in 2014 (cash inflow of EUR 4.95m), the company is financed until the planned EMA approval. In the 2014 half-year report, co.don separately reflected the extraordinary strategic expenditure for the approval and operative results. After adjusting for extraordinary expenses, the company is near to the operative break-even point (H1 2014: EBIT EUR -0.1m). Against the backdrop of strategic costs, negative results are expected on a full-year basis 2014e.

**Short-term catalysts** for the share price development are a) the progress and results of the clinical trials; b) increased product sales; c) the achievement of an operative break-even (before strategic costs) on a 2015 full-year basis; and d) the new appointment to the board of management (CEO). The approval would open up a EU-wide market (only knee indication) worth c. EUR 350m for co.don (WRe), and a transferral of co.don's platform technology to other fields of application (e.g. vertebral discs, hip) would present co.don with a market potentially worth billions. The revenue potential posed by the technology transfer is not included in the modelled assumptions.

**Valuation: Initiate coverage with Buy.** co.don is impressive due to the proven success of its products. The already achieved evaluation of a Phase II trial and the already growing sales of co.don chondrosphere prove the company's long-term potential. In addition to this, the fact that the national sales approval is already in place, makes the current EU-wide approval procedure seem more just like a formality. In the coming 24 months, every new milestone on the path to approval should be considered as positive triggers for the share price.

**Initial coverage with Buy – price target EUR 4.40.**



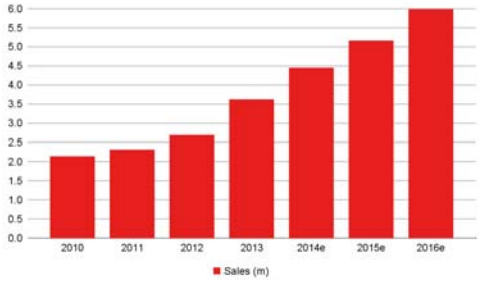

| Rel. Performance vs CDAX: | |
|---|---|
| 1 month: | 25.2 % |
| 6 months: | -15.5 % |
| Year to date: | 24.2 % |
| Trailing 12 months: | -6.6 % |

| Company events: | |
|---|---|
| 30.04.15 | FY 2014 |
| 14.07.15 | AGM |
| 05.08.15 | Q2 |
| 16.10.15 | Q3 |

| FY End: 31.12. in EUR m | CAGR (13-16e) | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|---|
| **Sales** | 18.2 % | 2.1 | 2.3 | 2.7 | 3.6 | 4.5 | 5.2 | 6.0 |
| Change Sales yoy | | n.a. | 8.0 % | 16.3 % | 34.5 % | 22.9 % | 16.0 % | 16.0 % |
| *Gross profit margin* | | *68.8 %* | *41.2 %* | *49.2 %* | *62.7 %* | *63.0 %* | *67.0 %* | *70.0 %* |
| **EBITDA** | - | -1.3 | -0.9 | -2.2 | -2.5 | -2.4 | -1.7 | -0.7 |
| *Margin* | | *-61.1 %* | *-37.1 %* | *-83.1 %* | *-68.4 %* | *-53.0 %* | *-33.0 %* | *-12.0 %* |
| **EBIT** | - | -1.4 | -1.0 | -2.4 | -2.7 | -2.6 | -2.0 | -1.0 |
| *Margin* | | *-66.9 %* | *-43.9 %* | *-88.4 %* | *-73.5 %* | *-58.0 %* | *-38.0 %* | *-17.0 %* |
| **Net income** | - | -1.4 | -1.0 | -2.4 | -2.7 | -2.6 | -2.0 | -1.0 |
| **EPS** | - | -0.11 | -0.14 | -0.22 | -0.24 | -0.19 | -0.14 | -0.07 |
| **DPS** | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dividend Yield | | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| **FCFPS** | | -0.14 | -0.21 | -0.23 | -0.19 | -0.12 | -0.21 | -0.07 |
| **EV / Sales** | | 10.7 x | 3.6 x | 3.0 x | 2.5 x | 9.3 x | 8.6 x | 7.5 x |
| **EV / EBITDA** | | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| **EV / EBIT** | | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| **P / E** | | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| **FCF Yield Potential** | | -5.7 % | -10.3 % | -28.2 % | -27.0 % | -5.7 % | -3.9 % | -1.6 % |
| **Net Debt** | | -1.7 | -1.3 | -2.8 | -1.2 | -4.5 | -1.7 | -0.8 |
| **Guidance:** | Positive revenue and yearly earnings development. | | | | | | | |

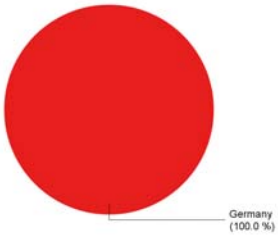

Analyst
**Harald Hof**
hhof@warburg-research.com
+49 40 309537-125

**Sales development**
in EUR m



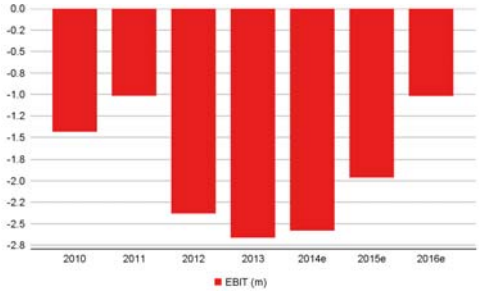

Source: Warburg Research

**Sales by regions**
2013; in %




Source: Warburg Research

**EBIT development**
in EUR m




Source: Warburg Research

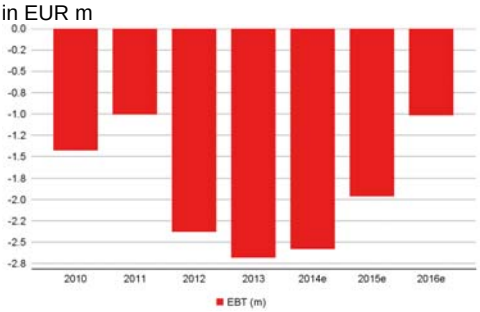
## Company Background

- co.don AG is a manufacturer of biopharmaceutical transplants. The company is specialised in the treatment of articular cartilage defects and spinal disc defects.
- A transplant is created from the patient's own cartilage and blood in the laboratory. This is then transplanted to the cartilage defect as autologous cells: an own-body, cell-based replacement for the defect.
- The authorisation process for the product co.don chondrosphere was necessary after the introduction of new EU regulations for the authorisation of medical products by the central European Medicines Agency.
- co.don chondrosphere was however already in distribution in 2004 and has since been used with around 6,500 patients. co.don chondrosphere is currently the most important co.don product to be on sale.
- The EMA authorisation would mean the product could be distributed in all EU countries. The authorisation is not expected until 2017.

## Competitive Quality

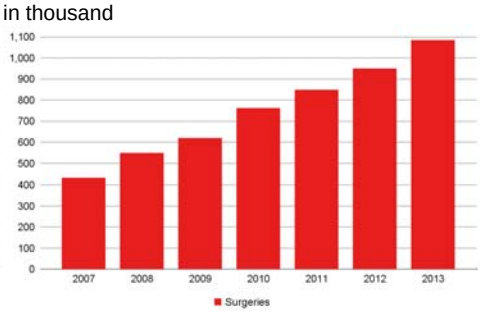
- With its joint-preserving product, co.don competes with manufacturers of surgical (i.e. metal knee implants), which can pose a considerably higher risk for the patients.
- A knee replacement procedure is considerably complex, while a cartilage replacement from co.don can be inserted by a minimally-invasive knee arthroscopy. Costs for both procedures are approximately comparable.
- Both procedures are covered by health insurance companies in Germany. The co.don procedure is currently being employed in more than 120 clinics (incl. Asklepios).
- As co.don chondrosphere is already being distributed, co.don has a clear competitive advantage over new entrants.
- In light of the 6,500 procedures that have already taken place and the now-confirmed effectiveness and safety of the procedure, the likelihood of a successful approval of the product is increased.

**EBT development**
in EUR m



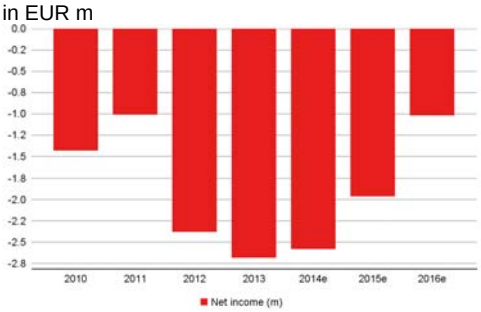

Source: Warburg Research

**Number of surgeries**
in thousand




Source: Warburg Research

**Net income development**
in EUR m




Source: Warburg Research

# Investment Case

**co.don is an innovative provider of cartilage transplants**

## co.don – an innovative, biopharmaceutical company

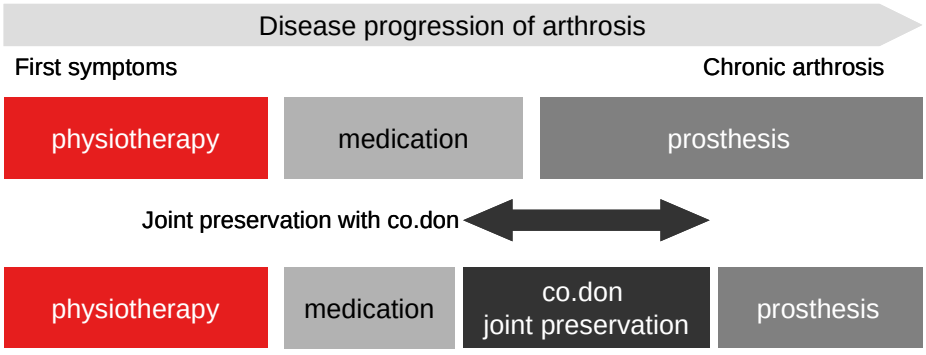
co.don has developed an innovative procedure for the cultivation of body tissue. In the so-called Tissue Engineering process, own-body cells are taken from a patient and are then cultivated in a special laboratory according to individual requirements. A 200mm blood sample and a cartilage sample (biopsy) from the patient constitute the base materials, and are extracted in an initial surgical intervention. The required cartilage transplant is thereafter cultivated for six to eight weeks, depending on the size of the cartilage defect. The resulting cartilage is then packed into a special applicator, making it ready for the transplant, before being sent to the surgeon. The cartilage is transplanted into the defected area in a second procedure. Here, it grows and closes up the existing injury within roughly 12 weeks. According to co.don, this procedure has already been used in more than 6,500 cases.

## USP: Unique attributes of co.don chondrosphere

co.don's core product is its co.don chondrosphere, which can be transplanted into the knee, shoulder, hip and ankle joints. The product currently accounts for 97% of revenue. The intervertebral disc transplant co.don chondrotransplant DISC accounts for 3% of revenue and is manufactured using the same cell technology as co.don chondrosphere.

- co.don chondrosphere is a joint preservative transplant.
- co.don chondrosphere is a cultivation from own-body cells, making it a transplant rather than an implant (implants can trigger allergies or be rejected)
- The accompanying applicator allows for a simple and non-invasive insertion of the transplant in the form of small spheroids (like little balls). Using a flexible and bendy operating instrument (the applicator) means these self-adhesive spheroids can also be positioned in hard to reach places, such as behind the kneecap.
- Normally, the surgery is minimally invasive and unlike an endoprosthesis does not involve an open surgical procedure. The surgery is therefore quick and easily-tolerated by the patient and poses fewer risks of infection.
- Endoprosthesis (e.g. metal implants) have a limited life time.
- Aftercare and rehabilitation is usually shorter and therefore more comfortable for the patient. Mostly, after only six weeks, the knee can bear full load once again and after roughly twelve weeks, the growth process is complete.

**Joint preservation can delay need for prosthesis**




Source: Warburg Research, co.don

To summarise, co.don presents the patient with a mostly gentle method for the treatment of (painful) cartilage defects. Regarding conventional joint implants which have an average holding period of 10 to 15 years, a 40 year-old patient with a life expectancy of 80 years would have to repeat the complex procedure multiple times in their life. In light

of the patient's increasing age and the additional wear and tear which comes as a result of removing the prior implant, every further procedure involves an increased risk. The average age of a co.don patient is 42 and their aim is to maintain their quality of life.

**co.don chondrosphere as knee implant competitor**

With its product co.don chondrosphere, co.don can offer an alternative to traditional joint replacement prosthesis (endoprosthesis) and, therefore, competes with the manufacturers of such replacements. The joint prosthesis market is dominated by large international medical technology companies (Zimmer, Smith & Nephew, Stryker, B.Braun) which typically occupy a pronounced supreme position as one-stop suppliers to hospitals and clinics. This competition structure presents co.don with a barrier to market entry. co.don's product however, does offer diverse clinical advantages compared with conventional joint replacements. In light of this, co.don has already been able to gain a number of clinics, hospitals and clinic associations, such as Asklepios-Kliniken, as customers.

## Already present in 120 German hospitals

Until now, co.don has been able to gain more than 120 hospitals as customers. These include specialist centres and doctors. The surgeons involved are often regarded as key opinion leaders in their positions. Significant centres to use the co.don procedure are:

- Asklepios-Kliniken, Germany wide
- Charité und Vivantes-Kliniken, Berlin
- Viktoria Klinik Bochum
- Universitätsklinikum Freiburg
- Universitätsklinik Giessen und Marburg (UKGM)
- Facharztklinik, Hamburg
- ATOS Klinik Heidelberg
- Ludwig-Maximilians-Universität, München

co.don estimates the number of relevant clinics in Germany to sit at 300. The opening of further medical centres alone should imply a considerable revenue potential for the company.

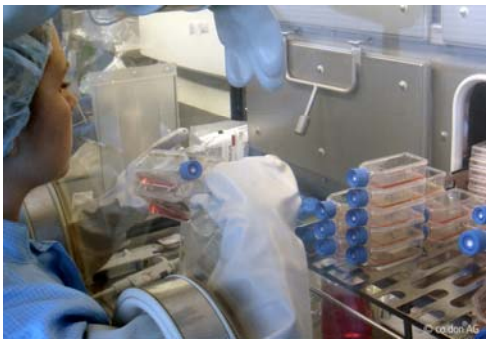
## Integrated Isolation Technology (IIT) as platform technology

**USP:**
**Integrated Isolation Technology**

The procedure developed by co.don can be used to treat various parts of the body. The unique Tissue Engineering procedure takes places in a clean room laboratory. As a first step, cartilage cells are removed from the base material that was extracted from the patient and thereafter multiplied. In order to ensure the cleanliness of production, co.don takes special hygiene precautions in the lab and more specifically, has developed the Integrated Isolation Technology. Through the use of double isolation (clean room within a clean room), maximum protection of the transplant can be achieved.

co.don manufactures cartilage cell transplants of the third generation. The so-called matrix-induced autologous chondrocyte implantation (MACI) is a biopharmaceutical transplant at the very peak of latest technology.

## Integrated Isolation-Technology (IIT)



Source: Warburg Research, co.don

This unique technological attribute from co.don allows for cell cultivation with the most up to date technology. The deciding factor is that this production technology can be used in other fields of application. While the co.don procedure is already being used successfully in the extraction of knee cartilage, the technology is also being increasingly used for extraction in the hip, ankle, elbow and shoulder areas. A further area of application is the spinal discs. The product which is relevant for the treatment of prolapsed intervertebral discs, namely the co.don chondrotransplant DISC, is currently being prepared for the approval process in Germany. Authorisation however, is not expected before 2022 (WRe).

The revenue potential posed by the transfer of the technology is not included in the modelled assumptions. The current approval procedure relates to the knee joint and as such, only revenue potential from this area is modelled. There is, however, further potential to transfer the method to other regions of the human body.

## Market development and competition – new regulation since 2009

**No approval necessary between 1997 and 2007**

co.don was founded in 1993 in Teltow near Berlin and started distributing the product co.don chondrotransplant, Generation 1 in 1997. As the result of subsequent developments, the product has been sold in its Generation 3 form since 2004. The sale of co.don transplants, as well as products from other competitors, could take place under the manufacturing authorisation during the first decade of business activity.

**New Europe-wide regulations in 2007:**

**Approval by Paul-Ehrlich-Institut**

Within the framework of new regulations for the pharmaceutical market, co.don's biopharmaceutical procedure was registered under the centralised European pharmaceutical product regulation in 2007 and since December 30, 2008 has required a marketing approval from the European Medicines Agency (EMA).

**As of 2009 the "Hospital Exemption" regulation applied:**

Between the start of 2009 and the end of 2012, a four-year temporary regulation was in place. This permitted a further distribution of the product. When the initial exemption period ended in 2012, conditions were set stipulating that the company would need to finalise necessary clinical trials and the approval procedure.

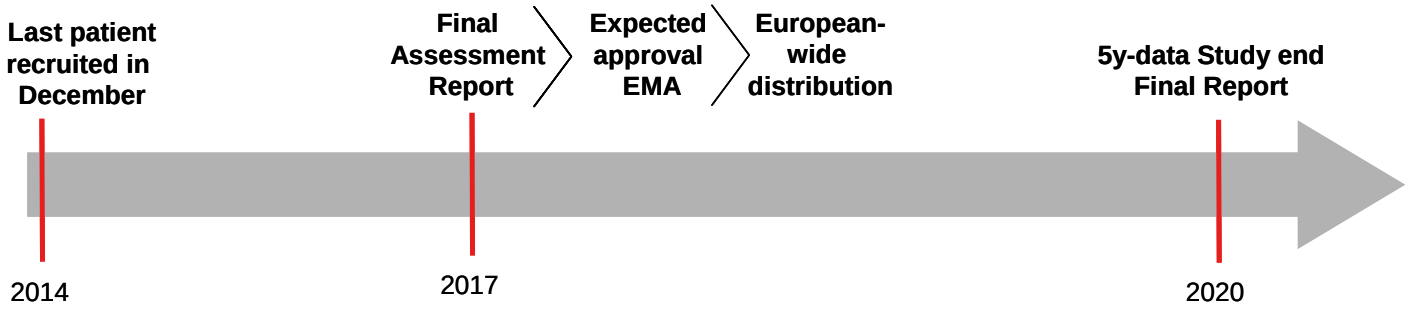
**Provisional approval from the PEI in place since 2013**

co.don applied for a national sales approval which was granted by the Paul-Ehrlich-Institut (PEI) at the end of 2013. This authorisation is valid for three years (2014, 2015 and 2016) and is expected to be replaced by the EMA approval in 2017. It is possible that a temporary extension of the national PEI approval might be applied for. Alongside co.don, two other suppliers (TETEC and TiGenix) fulfil the regulatory requirements for product distributions in Germany.

**EMA approval expected as of 2017**

After a successful completion of the Phase III clinical trial, co.don can achieve the EU-wide approval from the EMA. With this licence, the product chondrosphere can be marketed in all EU countries.

## EMA approval depends on preliminary results of the Phase III clinical trial




Quelle: Warburg Research, co.don

**Current situation of approval processes for competitors**

The following table provides an overview of the current competitors who are also in approval proceedings:

## co.don's competitive environment

| | Market Share Germany | Price (net) | Generation | Approval | Markets | approval EMA |
|---|---|---|---|---|---|---|
| **co.don (independent)** | 45% | EUR 4,000 - 4,600 | 3. Generation | Paul-Ehrlich-Institut (PEI) | solely Germany | not till 2017 |
| **TETEC (B. Braun)** | 55% | EUR 4,000 - 6,500 | 2. Generation | Paul-Ehrlich-Institut (PEI) | solely Germany | not till 2020 |
| **TiGenix (Novartis and Roche)** | <1% | EUR up to 15,000 | 1. Generation | European Medicines Agency | EU-wide | approved since 2009 |

Source: Warburg Research, co.don

**Attractive alternative compared to conventional implants**

### Costs covered by health insurance companies

In Germany, the statutory health insurance companies cover the costs of an MACI procedure that uses own-body cartilage transplants for spinal discs (since 2008) and for knee and hip joints (since 2007). Usually, costs are covered according to the statutory insurance company's cost reimbursement catalogue on a flat-rate basis. Along with this cost reimbursement, which is determined by membership of a defined DRG – Diagnosis Related Group, the supplementary compensation ZE 126 also covers the treatment of knee and hip joint procedures in Germany.

Normally, hospitals can pass on the full costs for the procedure to the insurance companies. Depending on the case complexity, hospitals can make revenues of EUR 10,000 to EUR 12,000, of which at least EUR 4,000 (plus VAT) go towards the cell-cultivated transplant. Depending on the hospital cost structure, there is a positive profit margin amount of EUR 600 to EUR 1,000 (WRe). With such financial viability, the co.don procedure represents the same level of profitability as that posed by a conventional knee replacement procedure. Furthermore however, co.don chondrosphere presents far less risk than metal implants as it does not provoke allergies, revisions or rejections. Overall, the co.don procedure's advantages outweigh those of conventional implants. What's more, the procedure is more advantageous and comfortable for both the patient and surgeon.

The private health insurance companies in Germany normally cover costs for the procedure according to their individual reimbursement procedures, meaning a generalisation cannot be made numerous providers on the German health market.

## Status of clinical Phase II and Phase III trials

co.don is currently carrying out two clinical trials which should prove both the effectiveness and safety of the preparation. The results of the multicentric, prospective, randomised open-label, long-term study will form the basis for the successful finalisation of approval from the European Medicines Agency in London.

**Clinical Phase II Trial: Data evaluation available – Study ended positively**

On December 18, 2014, co.don announced that the first set of results from the data evaluation of the clinical Phase II trial had been analysed. In this study, 75 patients with cartilage damage of between four and ten square centimetres were treated. Specifically, defects in the knee joint were treated with the product co.don chondrosphere. At least one year after the transplant had been implemented the effectiveness and safety could be confirmed.

This positive result from the data evaluation is a further and significant milestone for co.don. In light of the 6,500 procedures that have already taken place and the now-confirmed effectiveness and safety of the procedure, a successful approval of the products is more likely. A successful completion of the clinical Phase III trial is required for approval.

**Clinical Phase III Trial: all patients recruited**

The final patient for the Phase III study was recruited in December 2014. The aim of this study is to compare the effectiveness of the co.don chondrosphere product with the treatment method that has been used until now, the microfracture. In the co.don procedure, the cultivated cartilage is implanted into the defect and leads to the generation of new own-body cartilage. With microfracture, the bone which has the cartilage defect is medically fractured meaning that the procedure can only be used for small defects. The fracturing and stimulation of the bone marrow causes blood to flow through the defect carrying stem cells and nutrients, which then adhere to the exposed bone and cartilage. New cartilage (fibrocartilage) is formed within a week after the intervention.

For this study, 102 patients are being observed. These patients were chosen and treated with both procedures. Taking into consideration a 24-month observation phase and a c. six-month evaluation phase for the treatment outcome, the results of the study are not expected before mid 2017. These results will be the deciding factor regarding the successful approval from the EMA for the product co.don chondrosphere.

## Disproportionately high growth expected

In 2014, an average price of around EUR 3,700 per cell-cultivated transplant was charged by co.don. After a price increase in 2014 of the average price however, this figure is estimated to sit at EUR 4,000 (WRe). The product co.don chondrosphere is offered in three different sizes (S, M and L). The reason for this product volume is the varying size of the treated cartilage defect which can range from one to over ten square centimetres.

Thanks to an approval from the Paul-Ehrlich-Institut (PEI), the transplant can currently be used in Germany in all joints. For the moment, there are no sales approvals for an international distribution. If an EU-wide authorisation from the EMA is achieved, the PEI's approval would then be partly overridden (i.e. re. the knee). As the EMA approval only relates to procedures on the knee joint, the potential posed by applications only in this area can be modelled. Approval by the EMA could, however, include further application areas. The net sales price will also be maintained at a stable EUR 4,000 (national and international). A price increase at the rate of inflation is expected as of 2017e. These estimates are considerably below plans from co.don management: the company is

anticipating product prices for international sales of up to EUR 7,500 per application, while in Germany EUR 5,000 is expected.

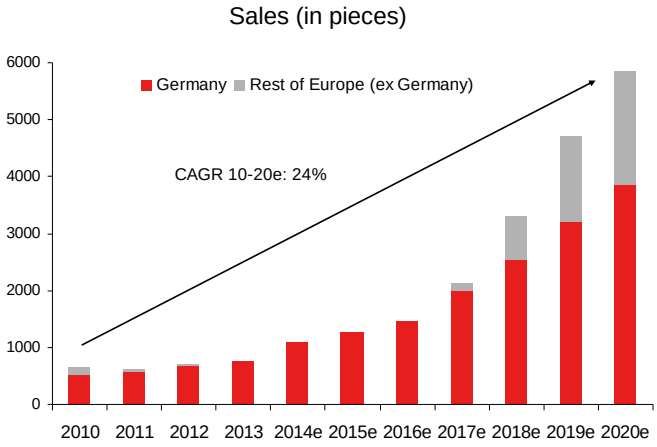
A factor which has not been modelled into estimates is the transferral of cell cultivation technology to other fields of application. The largest potential area here is a transferral of the platform technology Tissue Engineering to applications for spinal discs.

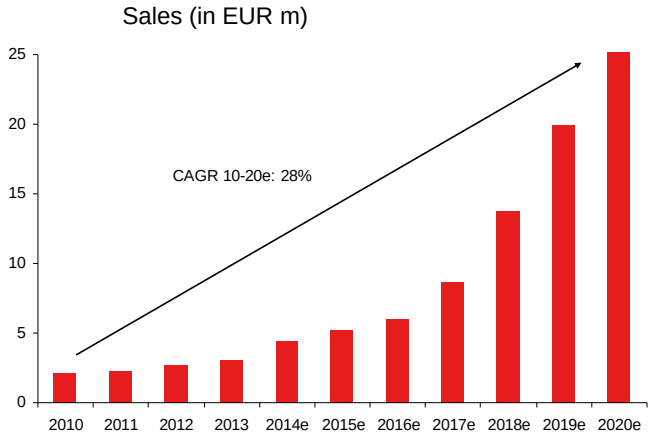
## Sales and revenue development for co.don from 2010-2020e (just knee indication)

| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e | 2017e | 2018e | 2019e | 2020e |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Germany** | | | | | | | | | | | |
| Knee implants p.a. | 166.549 | 169.880 | 173.278 | 176.743 | 180.000 | 183.884 | 187.561 | 191.312 | 195.139 | 199.041 | 203.022 |
| thereof 15% pertinent for co.don | 24.982 | 25.482 | 25.992 | 26.511 | 27.000 | 27.583 | 28.134 | 28.697 | 29.271 | 29.856 | 30.453 |
| sold units by co.don | 636 | 805 | 920 | 1.083 | 1.200 | 1.291 | 1.497 | 2.000 | 2.550 | 3.200 | 3.860 |
| Price per transplant | 2.621 € | 2.657 € | 2.815 € | 3.335 € | 3.700 € | 4.000 € | 4.000 € | 4.080 € | 4.162 € | 4.245 € | 4.330 € |
| Sales Germany | 1.667.000 € | 2.139.000 € | 2.590.000 € | 3.612.000 € | 4.450.000 € | 5.162.832 € | 5.987.526 € | 8.160.000 € | 10.612.080 € | 13.583.462 € | 16.712.753 € |
| **Rest of Europe** | | | | | | | | | | | |
| Knee implants p.a. | 373.559 | 381.183 | 388.962 | 396.900 | 405.000 | 413.100 | 421.362 | 429.789 | 438.385 | 447.153 | 456.096 |
| thereof 15% pertinent for co.don | 56.034 | 57.177 | 58.344 | 59.535 | 60.750 | 61.965 | 63.204 | 64.468 | 65.758 | 67.073 | 68.414 |
| sold units by co.don | 126 | 44 | 30 | 2 | 0 | 0 | 0 | 125 | 750 | 1.500 | 2.000 |
| Price per transplant | 3.794 € | 4.023 € | 3.433 € | 5.000 € | 3.700 € | 4.000 € | 4.000 € | 4.080 € | 4.162 € | 4.245 € | 4.330 € |
| Sales rest of Europe | 478.000 € | 177.000 € | 103.000 € | 10.000 € | - € | - € | - € | 510.000 € | 3.121.200 € | 6.367.248 € | 8.659.457 € |
| Total sales co.don | **2.145.000 €** | **2.316.000 €** | **2.693.000 €** | **3.622.128 €** | **4.450.000 €** | **5.162.832 €** | **5.987.526 €** | **8.670.000 €** | **13.733.280 €** | **19.950.710 €** | **25.372.210 €** |

Source: Warburg Research, co.don

## Sales and revenue development for co.don from 2010-2020e (just knee indication)




Source: Warburg Research, co.don

**Pure player with leading technology**

### co.don as takeover target

By the time of the EMA approval, co.don should have invested up to EUR 20m in product development, clinical trials and the approval procedure. co.don is also the owner of Integrated Isolation Technology (IIT) used for Tissue Engineering. This asset is expected to have an equivalent value within the low single-digit million regions. As a debt-free pure player and a pharmaceutical biotechnological company with procedural experience in over 7,200 cases, co.don could release significant synergies within a globally active medical technology company.

New competitors would be obliged to prove the effectiveness of their products by means of clinical studies. This process demands a time span of at least five years, which makes in-house development unattractive. To summarise, it appears clear that co.don could present strategic investors with an attractive take-over target.

## Newsflow

**More milestones achieved**

### Q1 2015: Revenue increases 22% yoy

co.don started off the current financial year with the month of strongest revenues in the history of the company. Overall, revenues increased in the first quarter by 22% to EUR 1.33m (EUR 1.09m Q1 2014). As such, the company remains on its path of positive development and that also applies to co.don's earnings situation. With increased product revenues and a strict cost discipline, the deficit - including strategic project costs for the approval process - could be reduced to EUR 0.19m, compared with the EUR 0.30m from the same time period last year. Not including the expenses for the European approval, co.don was again able to achieve a positive EBITDA.

### CEO Dr. Baltrusch to leave the company

On February 19, co.don announced that Dr. Baltrusch (CEO) will not be continuing his business activity at co.don after his employment contract comes to an end. Dr. Baltrusch will therefore leave co.don on September 30, 2015. He has been CEO of the company since 2009. The supervisory board has already started looking for a successor.

### Phase III clinical trial – Patient recruitment completed

In January 2015, co.don announced that the last patient had been recruited in December 2014 to take part in the study for the confirmation of effectiveness and safety. All in all, 102 patients were recruited throughout 12 clinical centres to take part in the study which is being carried out in Germany and Poland. The results of the study will have a critical impact on the EMA approval of the chondrosphere product.

### Framework agreement with Asklepios Kliniken extended

The framework agreement with Germany’s largest private hospital association which has been in place since 2011 has been extended by one year. This collaboration between co.don and Asklepios Kliniken means patients can be treated with an own-body cartilage replacement procedure. In total, co.don works with more than 120 hospitals in Germany, eight of which belong to the Asklepios association.

### Analysis of the Phase II clinical trial

In December 2014, co.don announced that the interim results from the Phase II clinical trial had been evaluated. Here, 75 patients with cartilage defects to the knee joint of between four and ten square centimetres in size were treated with various doses of the product co.don chondrosphere. The analysis of the 12-month findings confirms the effectiveness and safety of the product. This result represents an important milestone on the path to Europe-wide EMA product approval.

Valuation based on DCF analysis

# Valuation

## DCF Analysis

The estimates only include revenues from procedures on the knee. For further fields of application, new trials, which entail corresponding investment requirements, are needed. Further fields of application besides the hip are ankle and shoulder joints but it is vertebral discs which represent the most promising growth market.

## Alternative valuation approaches: peer group comparison

Possible peers from the biopharmaceutical and medical technological segments are companies such as: Biofrontera, Epigenomics, Formycon, MagForce, Medigene, Mologen, Paion oder Wilex.

A valuation based on a peer group comparison will not be used for the following reasons:

- Biopharmaceutical and medical technological companies often follow very different business models, rendering any direct comparison invalid.
- The companies in the above-mentioned peer group are at very different stages of approval which limits the level of comparability.
- The various markets addressed vary significantly in terms of size, regional focus and potential profitability.
- co.don is one of few companies to already achieve revenues from the sale of products. This is also a reason for lack of comparability.
- The majority of peers do not demonstrate any earnings, meaning the only factor available for comparison is the EV/sales. Against the backdrop already described above however, this multiple is not deemed resilient.
- There are partially no consensus estimates for peers.

## DCF model

| | Detailed forecast period | | | Transitional period | | | | | | | | | | Term. Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Figures in EUR m | 2014e | 2015e | 2016e | 2017e | 2018e | 2019e | 2020e | 2021e | 2022e | 2023e | 2024e | 2025e | 2026e | |
| Sales | 4.5 | 5.2 | 6.0 | 8.7 | 13.7 | 20.0 | 25.4 | 32.1 | 38.5 | 44.6 | 50.6 | 56.9 | 63.4 | |
| *Sales change* | *22.9 %* | *16.0 %* | *16.0 %* | *44.8 %* | *58.4 %* | *45.3 %* | *27.2 %* | *26.4 %* | *20.1 %* | *15.7 %* | *13.6 %* | *12.4 %* | *11.4 %* | *2.0 %* |
| EBIT | -2.6 | -2.0 | -1.0 | 0.3 | 1.2 | 2.9 | 4.1 | 6.3 | 9.5 | 11.2 | 12.7 | 14.2 | 15.9 | |
| *EBIT-margin* | *-58.0 %* | *-38.0 %* | *-17.0 %* | *3.9 %* | *9.0 %* | *14.7 %* | *16.2 %* | *19.6 %* | *24.7 %* | *25.0 %* | *25.0 %* | *25.0 %* | *25.0 %* | |
| *Tax rate (EBT)* | *-0.1 %* | *-0.1 %* | *-0.2 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *15.0 %* | *28.0 %* | *28.0 %* | *28.0 %* | |
| NOPAT | -2.6 | -2.0 | -1.0 | 0.3 | 1.1 | 2.6 | 3.6 | 5.5 | 8.4 | 9.5 | 9.1 | 10.2 | 11.4 | |
| Depreciation | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.3 | 1.5 | 1.7 | 1.9 | |
| *in % of Sales* | *5.0 %* | *5.0 %* | *5.0 %* | *3.5 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | |
| Changes in provisions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Change in Liquidity from | | | | | | | | | | | | | | |
| - Working Capital | -0.5 | 0.7 | 0.0 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | |
| - Capex | 0.2 | 0.7 | 0.2 | 0.7 | 1.1 | 0.7 | 0.9 | 1.1 | 1.3 | 1.6 | 1.8 | 2.0 | 2.2 | |
| *Capex in % of Sales* | *4.5 %* | *13.6 %* | *3.3 %* | *8.0 %* | *8.0 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Free Cash Flow (WACC Model) | -2.0 | -3.1 | -0.9 | -0.2 | 0.1 | 2.2 | 3.2 | 5.0 | 7.9 | 9.0 | 8.6 | 9.7 | 10.8 | 12 |
| PV of FCF | -2.1 | -2.9 | -0.8 | -0.2 | 0.1 | 1.3 | 1.8 | 2.5 | 3.5 | 3.6 | 3.1 | 3.2 | 3.2 | 38 |
| share of PVs | -10.49 % | | | | | | 40.53 % | | | | | | | 69.96 % |

**Model parameter**

| | | | |
|---|---|---|---|
| Derivation of WACC: | | Derivation of Beta: | |
| Debt ratio | 0.00 % | Financial Strength | 1.80 |
| Cost of debt (after tax) | 4.2 % | Liquidity (share) | 1.60 |
| Market return | 7.00 % | Cyclicality | 1.70 |
| Risk free rate | 1.50 % | Transparency | 1.50 |
| | | Others | 2.00 |
| **WACC** | **10.96 %** | **Beta** | **1.72** |

**Valuation (m)**

| | | | |
|---|---|---|---|
| Present values 2026e | 16 | | |
| Terminal Value | 38 | | |
| Financial liabilities | 0 | | |
| Pension liabilities | 0 | | |
| Hybrid capital | 0 | | |
| Minority interest | 0 | | |
| Market val. of investments | 0 | | |
| Liquidity | 5 | No. of shares (m) | 13.7 |
| **Equity Value** | **60** | **Value per share (EUR)** | **4.37** |

**Sensitivity Value per Share (EUR)**

| | | Terminal Growth | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Beta** | WACC | 1.25 % | 1.50 % | 1.75 % | **2.00 %** | 2.25 % | 2.50 % | 2.75 % |
| **1.90** | 12.0 % | 3.56 | 3.61 | 3.66 | 3.72 | 3.78 | 3.84 | 3.90 |
| **1.81** | 11.5 % | 3.84 | 3.90 | 3.96 | 4.02 | 4.09 | 4.16 | 4.24 |
| **1.77** | 11.2 % | 3.99 | 4.05 | 4.12 | 4.19 | 4.27 | 4.34 | 4.43 |
| **1.72** | 11.0 % | 4.15 | 4.22 | 4.29 | **4.37** | 4.45 | 4.53 | 4.62 |
| **1.67** | 10.7 % | 4.32 | 4.40 | 4.48 | 4.56 | 4.65 | 4.74 | 4.84 |
| **1.63** | 10.5 % | 4.50 | 4.58 | 4.67 | 4.76 | 4.85 | 4.96 | 5.06 |
| **1.54** | 10.0 % | 4.90 | 5.00 | 5.10 | 5.20 | 5.32 | 5.44 | 5.57 |

| | | Delta EBIT-margin | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Beta** | WACC | -1.5 pp | -1.0 pp | -0.5 pp | **+0.0 pp** | +0.5 pp | +1.0 pp | +1.5 pp |
| **1.90** | 12.0 % | 3.44 | 3.53 | 3.63 | 3.72 | 3.81 | 3.90 | 4.00 |
| **1.81** | 11.5 % | 3.73 | 3.83 | 3.93 | 4.02 | 4.12 | 4.22 | 4.32 |
| **1.77** | 11.2 % | 3.88 | 3.99 | 4.09 | 4.19 | 4.29 | 4.40 | 4.50 |
| **1.72** | 11.0 % | 4.05 | 4.16 | 4.26 | **4.37** | 4.48 | 4.58 | 4.69 |
| **1.67** | 10.7 % | 4.23 | 4.34 | 4.45 | 4.56 | 4.67 | 4.78 | 4.89 |
| **1.63** | 10.5 % | 4.42 | 4.53 | 4.64 | 4.76 | 4.87 | 4.99 | 5.10 |
| **1.54** | 10.0 % | 4.83 | 4.96 | 5.08 | 5.20 | 5.33 | 5.45 | 5.57 |

- Europe-wide authorisation is earliest expected in 2017.
- Upstream sales activities in 2016 are expected to lead to a significant revenue increase in 2017.
- Break-even is operationally expected on an EBITDA level (2015) but expenses for the authorisation still burden.
- After reduced expenses for the authorisation beyond 2017, total break-even is expected.

# Company and Products

## Alternative treatments for joint cartilage defects

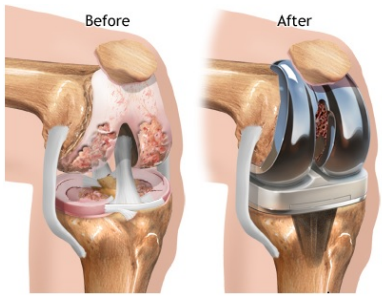
**180,000 knee implants every year in Germany**

### Conventional methods: Joint replacement

During the widely-used knee replacement procedure, the damaged joint is replaced surgically with an artificial joint. This procedure is typically used when medicinal therapy and physiotherapy no longer have any impact. Wearing of this joint is normally due to osteoporosis, arthritis or accidents.

Despite its complexity and the various risks involved, this surgery is widely used. In Germany, 180,000 knee joints are replaced every year (initial or repeated procedure). In Europe, the operation figure including Germany sits at 580,000. With 600,000 yearly procedures in the USA, this figure is comparable. Until now, barely any procedural methods have been promoted.

**Germany: Implants used in 180,000 cases p.a.**




Source: Warburg Research, Barmer GEK

### Alternative methods

There are some alternative treatment methods for the regeneration of a cartilage defect. None of these methods, however, leads to a complete reconstruction of the cartilage tissue as cartilage is not capable of self-regeneration. The reconstructed tissue differs in thickness and durability somewhat significantly from the original hyaline cartilage tissue. Hyaline cartilage is present for instance in the form of ankle, rib and nose cartilage, in the cartilage rings of the windpipe and in the cartilaginous preformed skeleton.

### Microfracture

Providing that the damage is relatively small, the area can be treated with Microfracture. In this procedure, small sections of the bone's surface situated under the defect are broken. This allows for blood, bone marrow and stem cells to flow into the defect and create a replacement cartilage, a so-called fibrocartilage. The disadvantage of this process is that it can only be used for small defects and that the replacement cartilage is not as durable as natural cartilage. The advantage is that it can be carried out within one surgical session.

### Autologous osteochondral cylinder transplantation (OATS)

The autologous osteochondral cylinder transplantation (OATS) is another procedure for the treatment of smaller defects. Autologous in this sense means that patient's own body tissue is transplanted. The tissue is taken from a section of non load-bearing joint cartilage and is thereafter transplanted into defect. The cartilage, which is a mixed tissue, then forms at the defected area. This mixture of natural cartilage and transplanted cartilage has less load-bearing capacity and is more fragile than original hyaline cartilage. What's more, there is the risk with this process that too much cartilage is transplanted, causing a painful arthritis to develop at the treated area. Also, the

procedure is limited to the treatment of defects which 2-3 square centimetres in dimension.

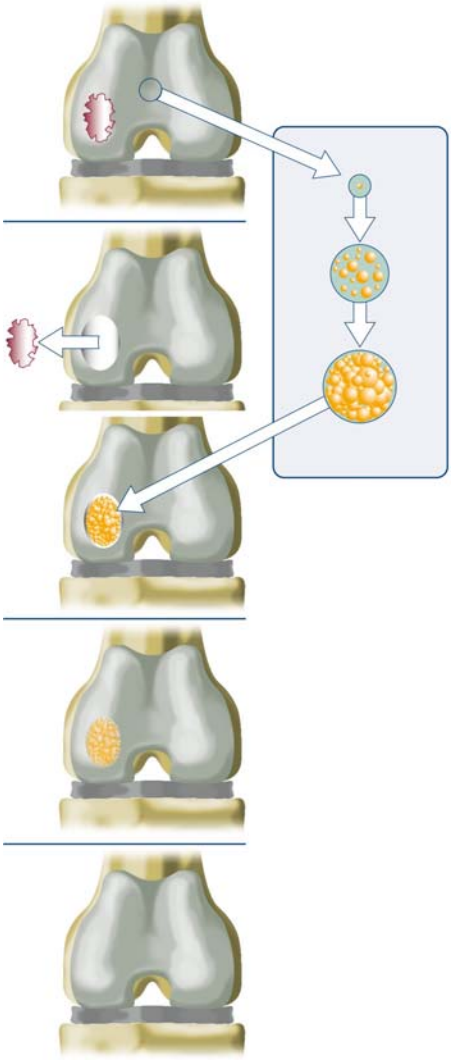
**MACI as best procedure for cartilage reconstruction**

**co.don method: Matrix-induced Autologous Chondrocyte Implantation (MACI)**

co.don uses the procedure of matrix-induced autologous chondrocyte implantation for the production of co.don chondrosphere. Healthy chondrocytes are taken from non load-bearing areas of joint cartilage via an arthroscopy. The chondrocytes are enzymatically removed from the extracellular matrix and then cultivated for two to three weeks within a patient-produced serum under standardised conditions.

**Sequences of a MACI-treatment**

In a second intervention, the cartilage defect is prepared before being injected with the spheroids suspension. It is precisely through this process that, in comparison with OATS, MACI is more well-suited for larger defects as less cartilage from non load-bearing areas is required. A pain reduction was demonstrated in many clinical trials. Furthermore, hyaline cartilage was seen in the defects of the majority of patients who were treated.

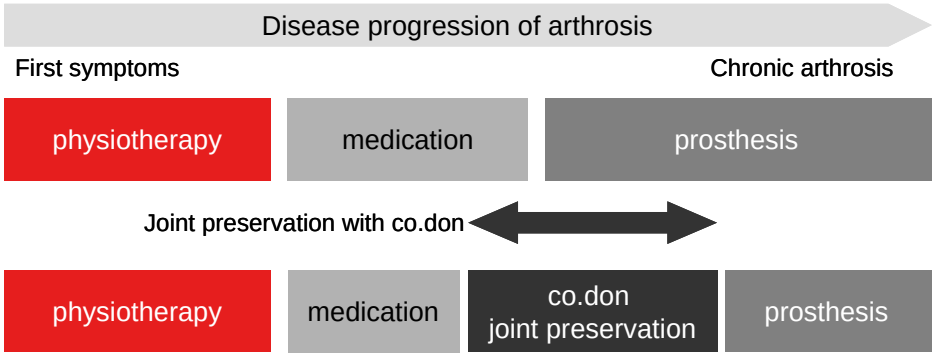


Source: Warburg Research, co.don

Apart from the MACI method, none of the above-described techniques demonstrate long-term success. During medical trials which investigated the various cartilage replacement procedures, transplant failures were sometimes observed. It was significant that in the majority of cases low-quality replacement cartilage developed. With improved lab techniques and more detailed knowledge of cell biology of chondrocytes, MACI can lead to more stable hyaline cartilage which has the qualities of the original cartilage. This means the quality of the cartilage in terms of structure, firmness and durability are the closest to the original cartilage.

The method is based on the extraction of human tissue to be used as a basis material, from which cells are then isolated and cultivated in the company's laboratory in order to be transplanted into the damaged area for its regeneration, reconstruction or repair. co.don has been carrying out research into the manufacture of biological tissue replacement within the field of Tissue Engineering since 1996. The cell transplant co.don chondrosphere, which was introduced in 2004, is currently offered for the treatment of joint cartilage and spinal discs replacement.

**Joint preservation can delay need for prosthesis**




Source: Warburg Research, co.don

## Treatment process with co.don chondrosphere

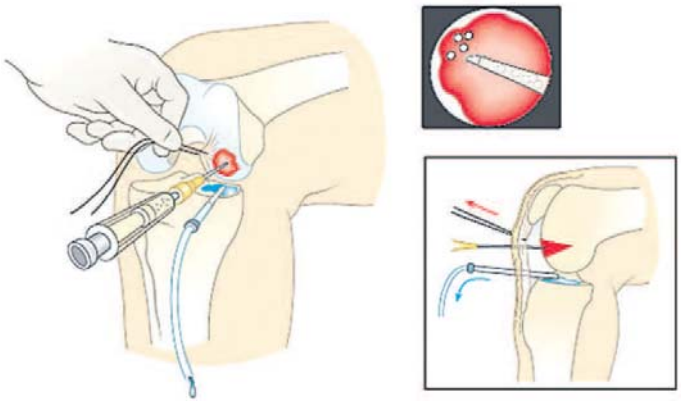
In order to obtain the required biological drug substance, cartilage tissue and blood are taken from the patient. These are then cultivated into cartilage cells in a co.don laboratory. This can take place due to the globally unique production technology, Integrated Isolator Technology (IIT). IIT does not require the addition of antibiotics or the use of genetic engineering methods. Three-dimensional cellular structures (spheroids) of up to one millimetre in diameter are produced and after seven to eight weeks are packed into a special applicator developed by co.don and sent to the surgeon. The number of spheroids required depends on the defect size and the appropriate volume is correspondingly cultivated.

## Applicator for spheroids

Source: Warburg Research, co.don

The surgeon involved transplants the spheroids into the affected knee area in a minimally invasive operation. The transplanted cells promote the build-up of new own-body cartilage tissue without assistance from foreign substances and this tissue is load bearing again after around six weeks.

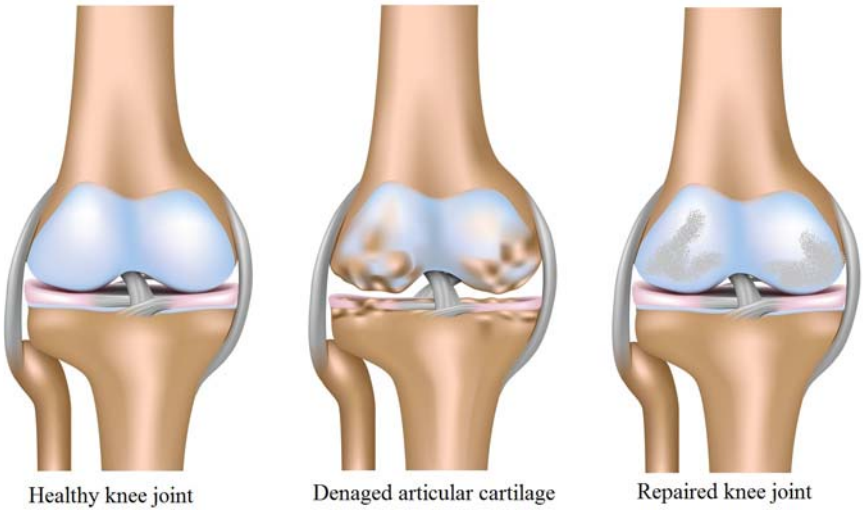
## Minimally invasive cartilage cell transplant



Source: Warburg Research

The rehabilitation period depends on each patient's condition but is generally complete after 12 weeks. The patient regains full load-bearing capacity of the knee joint. In rare cases, the rehabilitation needs up to one year.

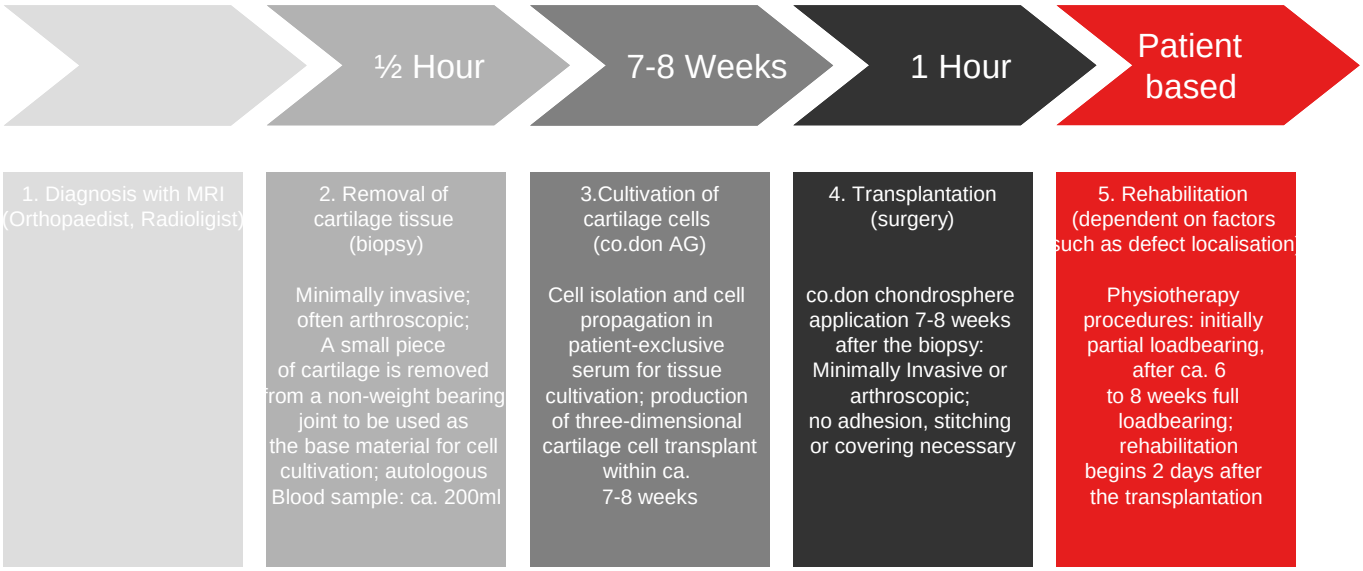
## Cartilage preservation via cartilage implant




Source: Warburg Research

The following diagram demonstrates the full process, from diagnosis to patient recovery.

**Process sequence: MACI process at co.don**




Source: Warburg Research, co.don

**Base material is made exclusively from patient's own cells**

co.don's procedure does not make use of foreign tissue or artificial material and thus minimises the risk of chronic pain (metal implant replacement), secondary diseases and infections. A rejection of the transplant is unlikely. co.don chondrosphere is particularly attractive for patients under 50 years of age as this group is too young to render the life span of an artificial joint suitable. The average age of a co.don patient is 42 years. Joint prosthesis last for around 10 to 15 years and thereafter have to be replaced due to wear and tear. The co.don procedure offers the possibility of avoiding of prosthetics, or at least, it can be used to delay the first implementation.

**Costs covered by health insurance companies**

**Cost reimbursement on a flat-rate basis**

In Germany, the statutory health insurance companies have covered the costs of an MACI procedure that uses own-body cartilage transplants for spinal discs since 2008, and for knee and hip joints since 2007. Costs are covered according to the statutory insurance company's cost reimbursement catalogue on a flat-rate basis. Along with this cost reimbursement, which is determined by membership of a defined DRG – Diagnosis Related Group, the supplementary compensation ZE 126 has also covered the treatment of knee and hip joint procedures in Germany. Without these supplementary contributions, the use of co.don products in hospitals and clinics would not be economically viable and therefore, unattractive. According to company sources, alone the DRG payment does not even cover the transplant production cost.

The private health insurance companies in Germany normally cover costs for the procedure according to their individual reimbursement options, meaning a generalisation cannot be made for a number of providers on the German health market.

It is possible that in the future, treatment for other indications, for example the shoulder or ankle, will also be reimbursed. With its platform technology, co.don offers the possibility of addressing these areas. This however would require further clinical trials and in light of the firm's financial situation, such trials are currently neither planned nor feasible.

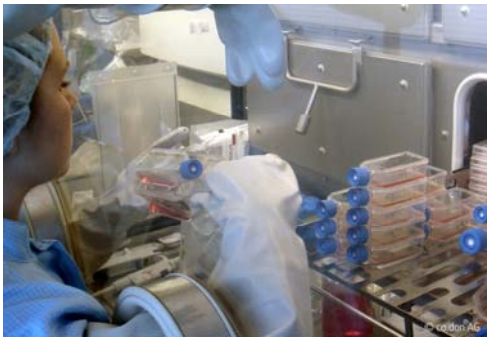
Going by current estimates from co.don, a successful European approval would form the essential prerequisites for a reimbursement from health insurance companies in all European countries.

**Innovative product technology**

## Technology: Integrated Isolator Technology (IIT)

co.don is the market leader in the field of autologous (patient's own) cartilage regeneration. The Integrated Isolator Technology and its accompanying attachments allows an aseptic cultivation of cartilage cells without the use of additional carrying materials. Isolating the cells from the matrix means cultivation can take place through natural cell division. Transplants can be manufactured and this must comply with the highest of hygiene standards. The isolator is a clean room within a clean room, and work here takes place with special isolator gloves which completely remove the possibility of disrupting the isolation. Even the mounting device for changing these gloves has been patented. The material in co.don products is 100% autologous. This is opposed to competing products which, despite often being described as autologous, contain animal proteins or other proteins. This characteristic of co.don minimises the risk of rejection: in fact, the cell matrix already completely attaches itself to the cartilage and bone without the need for fusing after c. 20 minutes. As opposed to some competing products, this allows for the most minimal of surgical efforts, namely, an arthroscopic intervention under local anaesthetic.

**Integrated Isolator Technology (IIT)**



Source: Warburg Research, co.don

**Platform technology for diverse fields**

**Product pipeline: co.don chondrotransplant DISC:** Autologous Disc-derived chondrocyte Transplantation

co.don's Autologous Disc-derived chondrocyte Transplantation (ACDT) is a cell implant for the treatment of prolapsed discs that require surgery. The procedure balances the tissue loss at the disc prolapse after an operation so as to stop the often occurring subsequent disc degeneration.

For the disc procedure, disc tissue is extracted. Disc cells are then isolated from this tissue in a co.don lab. Like with the manufacture of co.don chondrosphere, the extracted cells are cultivated using the Integrated Isolator Technology (IIT). The resulting autologous cell transplant can be injected into the vertebral discs under a minimally invasive surgical procedure. After two days of rest in bed, rehabilitation measures can begin. Generally, the tissue defect is completely replenished within 10 weeks.

Until a potential approval is achieved, the product can be distributed in Germany within the framework of a special protection. Currently, the product has a minor roll for co.don and hence, the potentials are not included in the financial model.

# Market, Growth and competition

**Arthritis as main cause of joint complaints**

## Main cause of joint replacements

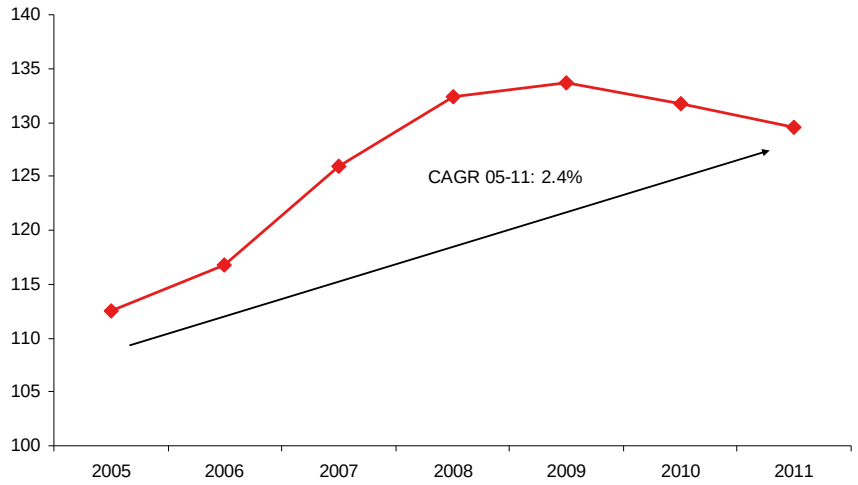
Alongside everyday accidents, road accidents or sporting accidents, arthritis is the most common cause of joint disease in adults worldwide. Arthritis causes joint deterioration and while it predominantly occurs later in life, it is being seen increasingly more often in younger people. Older people in particular are suffering more and more from diseases of the knee such as knee arthritis. When joint-preserving procedures such as physiotherapy, muscle strength training, physical therapy and medicine no longer bring about preservation of the joint, an artificial knee replacement is usually the next option. The number of knee operations and in particular joint replacement operations has increased significantly in recent years in Germany.

## Market und market growth (knee)

### Market potential in Germany

co.don's product addresses patients with joint problems that are to be treated with a joint replacement either in the short to mid term. In the last decade the number of first-time knee replacement operations has increased significantly. In 2011, the number of people receiving an initial artificial knee implant reached 130 per 100,000, and thus implied a 16% increase compared with 2005. More up to date figures are not available. Including operations to exchange worn joint implants, the number of knee operations per 100,000 people is over 200. Overall, around 180,000 knee replacements are implanted per year.

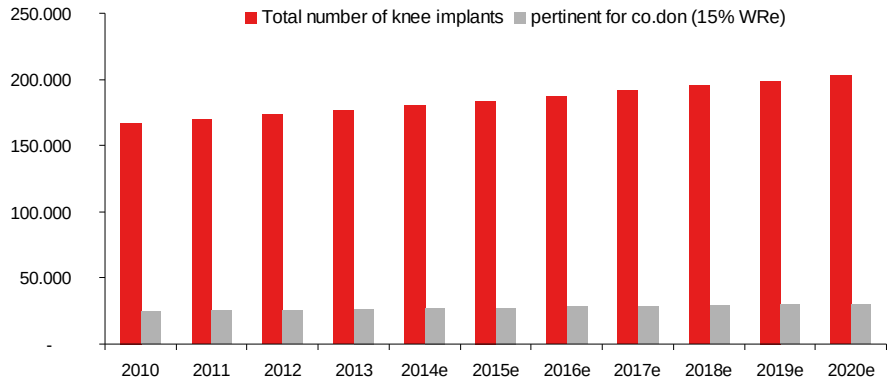
**Initial knee replacement implants (per 100,000 capita)**




Source: Warburg Research, Statista

Depending on the individual symptoms and whether there is an early diagnosis of cartilage damage, a complicated joint replacement implant can be avoided through the use of joint-preservation methods. Expert opinions in the field (Zinser 2011) claim that up to 20% of knee replacement operations could be avoided. Instead, a procedure with the aim of joint preservation is considered appropriate by medical practitioners and such a procedure is offered by co.don. In calculating the market volume, a substitution ratio of 15% is assumed.

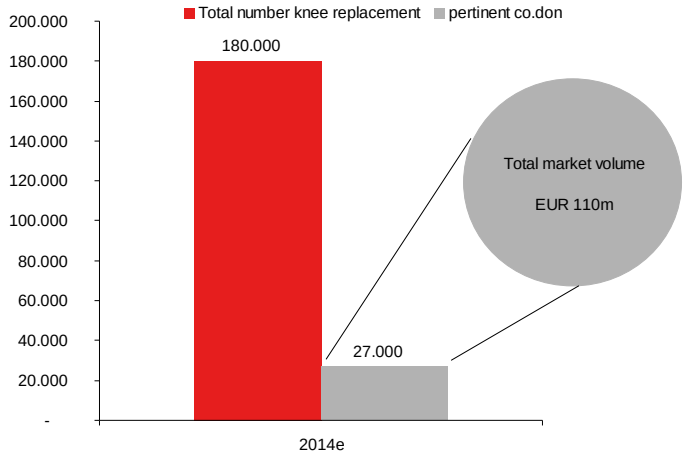
**Number of knee replacement operations in Germany**




Source: Warburg Research, Statista

If, as has been calculated above, 20% of knee implants in Germany could be avoided each year, this would imply that 36,000 cases could be addressed per year by co.don. A substitution ratio of 15% is used in the Warburg Research model assumptions. With this, 27,000 units would lead to a market volume of EUR 110m in Germany, at a basic assumed product price of currently EUR 4,000.

**Market potential in Germany: EUR 110m (just knee indication)**




Source: Warburg Research, Statista, co.don

**Direct distribution in Germany**

## Distribution in Germany

Alongside other smaller distribution activities (e.g. Berliner Knorpel-Symposium), co.don relied on a collaboration with an external distribution partner until mid FY 2013. In the framework of a newly introduced distribution strategy however, distribution activities were reorganised and nationally, they are administered by co.don. A total of four employees are currently responsible for the support of doctors and medical practitioners from more than 120 various hospitals. co.don's target group consists of specialised doctors in the corresponding hospitals and clinics. As such, until now co.don addresses a relatively small group of doctors. However, while this group is small, its composition of key-opinion leaders and direct multipliers means it is of paramount importance for distribution activities. In total, co.don has some 300 hospitals and clinics which are considered relevant for the cartilage transplants that they offer. Around 30 hospitals are currently responsible for the majority of revenue but a substantial growth could be reached from an intensification of distribution activities alone.

Both nationally and internationally, the Berliner Knorpel-Symposium is of great

importance. This medical specialist conference was initiated by co.don and took place for the 4th time in 2015. With this event, the company can come into direct contact with its target customers and can thus directly learn from the needs of users. All in all, over 180 experts, doctors and medical practitioners were present.

## Market potential in Europe

**Europe-wide approval opens up EUR 240m market**

The absolute number of knee operations per 100,000 inhabitants does not show uniformity between European countries. Here, the growth rates between 2008 and 2011 fluctuate between stagnation and double-digit figures. The background to this is the considerably diverse reimbursement policies from service providers and insurance companies. With over 200 operations per 100,000 inhabitants, the DACH region is the most strongly represented. As it stands, however, Switzerland cannot receive co.don products as it is not a member of the EU. The EMA approval is only valid in member countries.

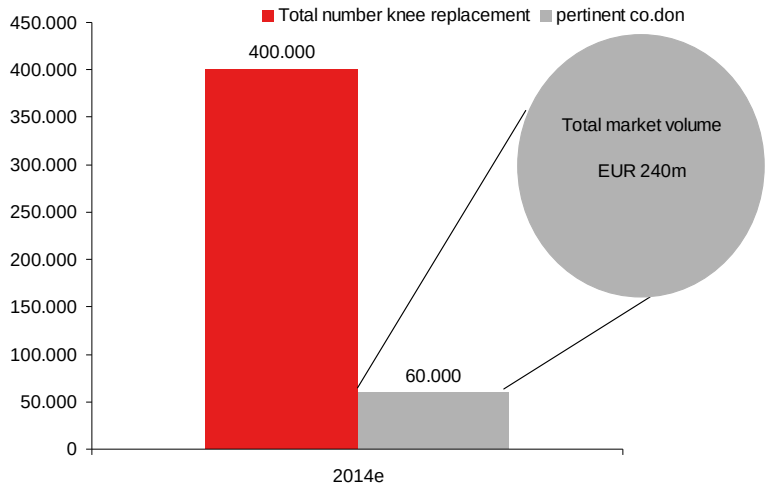
**Knee operations per 100, 000 inhabitants in selected EU countries**

| | 2008 | 2011 | CAGR 08-11 |
|---|---|---|---|
| Austria | 187 | 218 | 5.2% |
| Germany | 206 | 207 | 0.2% |
| Swiss | 179 | 205 | 4.6% |
| Finland | 184 | 193 | 1.6% |
| Belgium | 168 | 178 | 1.9% |
| Denmark | 106 | 175 | 18.2% |
| Luxembourg | 155 | 160 | 1.1% |
| UK | 146 | 143 | -0.7% |
| France | 114 | 133 | 5.3% |
| Sweden | 110 | 128 | 5.2% |
| Netherlands | 119 | 118 | -0.3% |
| Spain | 106 | 110 | 1.2% |
| Italy | 97 | 98 | 0.3% |

Source: Warburg Research, Statista

Like with the German market, it is estimated that 20% of implant procedures in Europe could be avoided. This leads to a total of around 80,000 units per year. For the Warburg Research model assumption, a substitution ratio of 15% is assumed. Based on 60,000 units this leads to a market volume of EUR 240m, at a basic assumed product price of currently EUR 4,000. This product price assumption, however, is seen as conservative. Competitors (e.g. TiGenix) offer comparable products at a unit price of EUR 15,000. Given the fact that standard knee implants can be acquired for a low four-digit euro price, it is clear to see why there is no immediate pressure to replace artificial knee replacements by biological cartilage transplants. With prices surpassing EUR 10,000, these products are economically unattractive for hospitals and clinics. However, prices of between EUR 4,000 and EUR 6,500 are considered competitive and therefore set the scene for determining market size.

**Market potential in Europe: EUR 240m (just knee indication)**




Source: Warburg Research, Statista, co.don

To conclude, a total addressed market figure for knee indication of around EUR 350m can be derived from the German and European market potential. This does not include the market volume of further applications provided by co.don's platform technology. The production process can also be used for the joint cartilage in the shoulder, hip, ankle and vertebral discs. In order to attend to these body parts however, further clinical trials and another approval from the EMA would be required. In line with this, their market potential is not included in the current calculation.

**Distribution partner for European sales**

### Sales in Europe

The European market outside of Germany is very important for co.don. With a Europe-wide approval, the company would be able to operate in all European countries. Furthermore, as a result of the reimbursement policies in health systems in the other EU countries, higher prices could be achieved. According to company sources, up to EUR 15,000 could be made per procedure in some markets.

co.don is planning to establish sales partners for pan-European sales, who can be active in one or more countries, or also in the whole of Europe. For the time being, these partners are expected to only have sales licences and not manufacturing licences. The production of cartilage implants will continue to be organised by co.don and products can be transported to the surgeon within 38 hours.

The collaboration with a sales partner in Germany did not bring the success which had been expected. It was also for this reason that a self-organised direct sales process was established. Medical technological and pharmaceutical sales organisations have individual structures and aim for different markets. Given that co.don offers a consultancy-intensive and delicate product, which is cultivated within the framework of manufacture production, it is necessary to find suitable local business partners. The sales organisations which are established must be able to deal with the large challenges presented by the co.don product

## Competition

There are two sides to the competition situation. First of all, as an alternative to conventional joint replacement, co.don competes with the global players in the medical technology industry. Secondly, three other companies supply products that are similar to those of co.don: TETEC, TiGenix und BioTissue. This makes for an oligopolistic competitive environment.

**co.don considerably ahead of competition**

**co.don's competitive advantages:**

After 7,200 transplants and ten years of experience, co.don demonstrates the strongest track record among the suppliers. What's more, co.don is ahead of the main competitior TETEC in terms of the approval process. Other unique qualities are:

- co.don solely uses autologous base materials while other products are created from treated human bones or animal bones (e.g. pig or cow). The co.don procedure is therefore less likely to be rejected and is appropriate from a religious point of view.
- co.don offers the third generation procedure while competitors can only offer the first and second. Therefore co.don's procedure has clinical advantages compared to competitor's products.
- After 7,200 applications, co.don boasts the strongest track record.
- Until the final authorisation, up to EUR 20.0m is to be invested into research and development, clinical trials and the approval procedure. This investment volume should keep other competitors at a distance.
- Competitor TETEC should not be able to achieve an authorisation before 2020, implying that co.don could have several years of a headstart in establishing the leading market position.

## co.don's competitive environment

| | Market Share Germany | Price (net) | Generation | Approval | Markets | approval EMA |
|---|---|---|---|---|---|---|
| **co.don (independent)** | 45% | EUR 4,000 - 4,600 | 3. Generation | Paul-Ehrlich-Institut (PEI) | solely Germany | not till 2017 |
| **TETEC (B. Braun)** | 55% | EUR 4,000 - 6,500 | 2. Generation | Paul-Ehrlich-Institut (PEI) | solely Germany | not till 2020 |
| **TiGenix (Novartis and Roche)** | <1% | EUR up to 15,000 | 1. Generation | European Medicines Agency | EU-wide | approved since 2009 |

Source: Warburg Research, co.don

**Direct competitors in particular are:**

**TETEC AG – Second generation product**

TETEC is co.don's main competitor. The company offers the competing Second Generation product. In Germany, TETEC is approved by the Paul-Ehrlich-Institut. TETEC AG develops and manufactures tissue replacements and has its headquarters in Reutlingen. The second generation products are intended to help the patient repair damaged cartilage. Here, cell colonies are cultivated before being transplanted into the patient. The company is currently recruiting participants for clinical trials (www.clinicaltrials.gov). In light of the necessary patient observation periods, an approval is not expected before 2020. As such, co.don should have a head start of over three years compared with TETEC.

Furthermore, TETEC uses a manufacturing process that involves the use of foreign substances. These can be animal elements (e.g. pig or cow) which cannot be used by certain patient groups for religious and ethnic reasons.

TETEC is a subsidiary of the B. Braun Melsungen AG. In 2013, the parent company made around EUR 5.2bn globally with almost 50,000 employees.

**TiGenix – First generation product**

TiGenix is a company from the Belgian area of Leuven. The company offers cell therapy for the treatment of damage to the knee joint. According to company's sources, other products for the treatment of Crohn's disease, rheumatoid arthritis and auto immune

illnesses are also being developed.

Since the year 2009, the company has had a Europe-wide EMA approval for its First Generation product ChondroCelect (price up to EUR 15,000) which is used for the treatment of cartilage damage in the knee. Sales are handled by the company Sobi (2013 revenue: EUR 250m, 540 employees).

TiGenix distributes a First Generation product, while TETEC sells a Second Generation product. It is just co.don, which distributes a considerably more developed product from the Third Generation, making co.don the most advanced manufacturer.

TiGenix achieves around EUR 3.2m revenues and has 66 employees. The company is owned by Gri Cel SA (21.30 %), Novartis Bioventures Ltd. (4.55%) and Roche Finanz AG (4.33%).

**BioTissue**

The Freiburg company BioTissue develops methods and products for the treatment of knee problems. This includes therapies for cartilage damage with cultivated cell cultures and the treatment of cartilage joint damage with stem cell treatments. With the help of tissue engineering the company achieves an accumulation of cartilage material from autologous cells.

BioTissue is a spin-off of the Universitätsklinikums Freiburg (Freiburg Teaching Hospital) and the accompanying development company TransTissue, a spin-off of the Charité Klinik in Berlin. The company can make good use of its four-year clinical trial in the field of Tissue Engineering and since 2004 the company has had an approval from the Paul-Ehrlich Institut. Figures regarding market and sales activities are not available.

# Financials

## Development in 2014

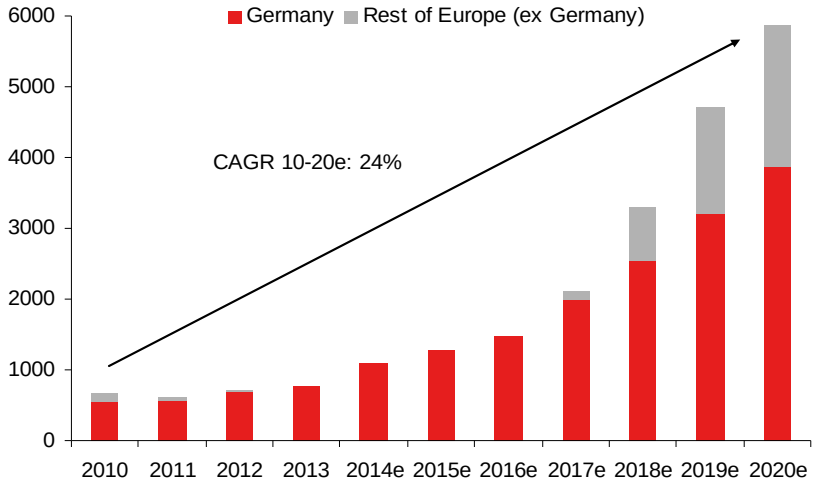
**2014e: Revenue +22% yoy**

For the preceding business year the number of treatments sold is expected to be around 1,200. Based on an average unit price of EUR 3,700, this leads to a total revenue figure of EUR 4.5m. This would imply a revenue increase from the previous year of 23%.

## Expected mid-term revenue development

In recent years, co.don has been able to increase its sales continuously with double-digit growth rates, and this was despite the lack of an international marketing authorisation - against the backdrop of a re-regulation of the European pharmaceutical market. With the approval from the Paul-Ehrlich-Institut (PEI) in Germany, co.don managed to demonstrate impressive growth. Until 2017e, growth of 15% per year is expected, and growth should accelerate considerably during this year. The largest growth driver is expected to be the EU-wide sales approval for the products. Beyond 2017e, continued strong growth of 24% per year is expected.

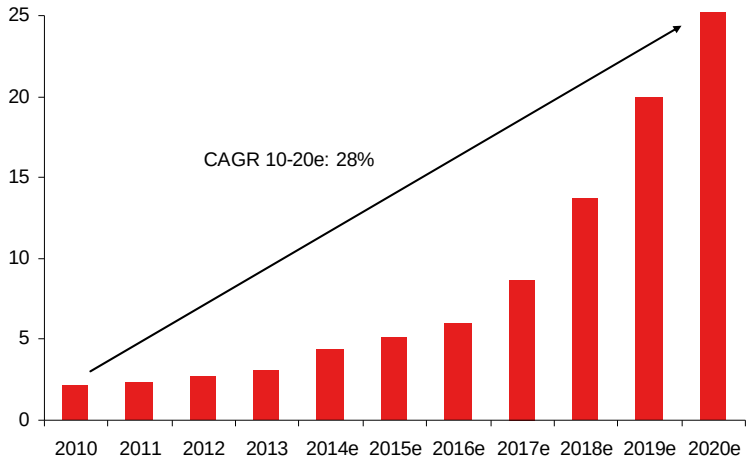
**Sales inside and outside of Germany (just knee indication)**




Source: Warburg Research, co.don

Annual sales for over 5,800 cell cultivations are estimated by 2020e. This implies that the products sales would increase almost five-fold in the coming five years. With a CAGR 10-20e of 28%, co.don's forecasted revenue development is expected to be slightly higher than sales measured in units sold. The reason for this is the moderate price increase based on an inflation estimate of 2% per year.

**Revenue development (in EURm)**



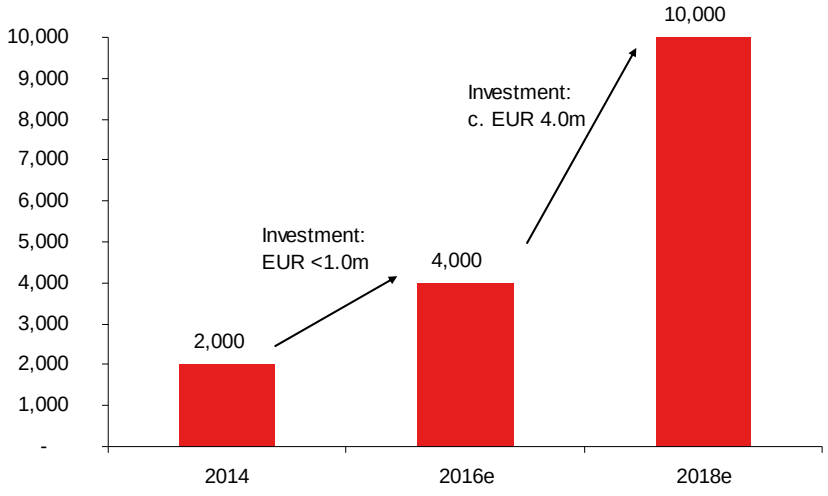

Source: Warburg Research, co.don

## Expansion of capacities necessary

**Production expansion to 10,000 procedures p.a.**

In 2014e around 1,200 co.don chondrosphere treatments should be produced and sold. Current available production capacities can produce a yearly volume of up to 2,000 treatments. An expansion of production capacities is currently planned and is already in the preparation stages. Initially, capacities in the Teltow location should be extended from 2,000 to 4,000 units per year. Important measures being taken here include the renovations and automation developments.

**Expansion capacity (in units) and investment volume (in EURm)**




Source: Warburg Research, co.don

With an additional renovation and expansion step, the capacity can be raised from 4,000 to 10,000 units per year. For such a step, further investments of around EUR 4.0m (WRe) would be necessary. These measures are not expected before 2018. Estimates assume that these capacities would only become necessary when the Europe-wide approval is in place.

## EBIT before strategic costs: Break even expected in 2017

co.don separately published profit and loss calculations according to operative and strategic costs in the last H1 reporting. This reveals an already achieved break even for the operative business on an EBITDA level. However, operative earnings on a 2014e full-year basis are expected to be negative at EUR 0.6m. After deducting strategic costs for the clinical trials and the approval procedure however, a significantly negative earnings figure of EUR 2.6m for full-year 2014e can be expected.

By 2017 further strategic costs of EUR 4.8m are expected, which will be almost equally distributed between 2015 until 2017. After the cessation of strategic expenses in 2017, the break-even is expected at EUR 0.9m on an EBITDA level. EBIT is also expected positive at EUR 0.4m, or that is, an EBIT margin of around 5%.

## Cash flow development

No further capital requirements are expected in the short term. Despite further investments in the Teltow location but also in the further introduction of clinical trials and the achievement of the approval, a sufficient financing is present. After the capital increase in 2014 (inflows of EUR 4.95m), the available liquidity at year-end 2014e should allow for a complete financing until the approval. If there is a delay, however, regarding the EMA approval process, further financing measures could become necessary. Likewise, a possible capacity expansion as of 2016e could require further financial measures which could be covered by equity, credit and even by some public subsidies.

### Losses of ca. EUR 36.0m carried forward

Since the IPO in 2001, co.don has not achieved positive earnings figures Initially, as a result of diverse growth investment followed by a restructuring process, and currently as a result of the high expenditure for the EMA product approval procedure, the company has accumulated losses carried forward of almost EUR 36.0m. An average tax ratio of 30% leads to a quasi asset value of EUR 10.8m which should grow further still in the coming years. Break-even on a level of annual net profit is expected for co.don in 2017. In the years following the product approval the losses carried forward can be used successively.

**Innovative biopharmaceutical from Berlin**

## Company background

As a biopharmaceutical company involved in both research and production, co.don supplies products and therapy opportunities for patients with damaged joint cartilage of spinal disc defects. The company was formed in 1993 as Gesellschaft für molekulare Medizin und Biotechnologie mbH and since 1999 has operated as the company co.don Aktiengesellschaft (co.don AG). In 2001 the company became listed on the Frankfurt stock exchange.

Between 1997 and 2012, the company's first product co.don chondrotransplant for the treatment of cartilage defects was available and marketed. Since 2004 the further enhanced co.don chondrosphere for the treatment of joint cartilage damage was made available alongside the spinal disc transplant co.don chondrotransplant DISC. In light of the new regulations for the authorisation of medical products, an approval process for all new products was imposed on co.don in 2013 by the central European Medicines Agency (EMA). Given the extensive costs for an approval process, the company decided to concentrate on the product with the most potential co.don chondrosphere, for which the first results of the phase III clinical trial are expected before 2017. The company is, however, already marketing this product thanks to a special authorisation for Germany from the national regulatory authority (Paul-Ehrlich-Institut – PEI).

**Listed since 2001**

### History

- 1993 Founding of co.don GmbH
- 1997 Transformation into a pharmaceutical company with an approved manufacturing authorisation. First treatment on knee joint with co.don chondrotransplant
- 1999 Conversion of the GmbH into co.don AG
- 2001 Becomes listed on the Frankfurt exchange
- 2004 Sales of co.don chondrosphere and chondrotransplant DISC begin
- 2007 Complete cost reimbursement by German statutory health insurance companies for knee procedures
- 2008 Costs for hip, elbow and disc procedures are also covered by funding agencies (health insurance companies)
- 2012 Start of the Europe-wide approval procedure for the product chondrosphere; granting not expected before 2017
- 2013 National authorisation for chondrosphere in Germany granted
- 2014 Over 6,000 procedures with co.don products
- 2014 Preparation for the national approval of co.don chondrotransplant DISC
- 2014e With another 1,200 treatments in 2014, more than 7,200 transplants have been successfully implemented

### Management

**Dr. Andreas Baltrusch,** Chairman of the Board, CEO
Responsible for: Financing, Marketing, Sales and Controlling

After completing his studies in Business Engineering at the Technischen Universität Berlin, Dr. Baltrusch began his professional career at Buderus AG in 1995. Subsequently, between 1997 and 2001 he worked at Senior Advisor at the SCG St. Gallen Consulting Group. After this, he also held management positions for subsidiaries of ALBA AG, Cleanaway Deutschland AG and MECO CAB Invest. Dr. Baltrusch has been Chairman for the co.don AG since 2009.

Dr Baltrusch will leave the company when his contract ends on September 30, 2015.

**Dipl. Ing. Vilma Methner,** Board Member, COO, CSO
Responsible for all operating business area, in particular Production, Integrated Isolation Technology (IIT), Research & Development, Clinical Trials and Approvals

Methner holds a diploma of veterinary medicine with an additional degree in Industrial Engineering at the TFH Berlin. With her extensive experience in the production of cell-based products, Methner has been working for the company since its founding in 1993 and was appointed to the board in 2007. She played a vital role in co.don's development of cell-biological products and Isolator technology.

## Shareholder structure

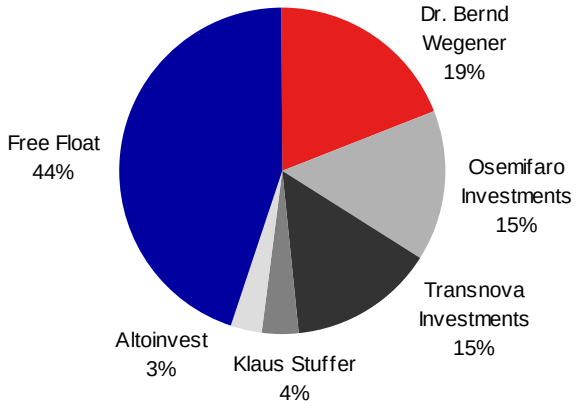
**Principle participation from financial investors**

co.don has been listed on the Frankfurt stock exchange in the General Standard since 2001. Of the 13.72m issued shares, 47% are in a free float. The remaining 67.1% are held by investors that are closely linked to the company. As current Chairman of the Board, Dr. Bernd Wegener holds the largest share at 16%. In contrast, no notifiable shares are held by management.

### Phantom stocks

Board members were granted with Phantom stocks, through which management can participate in co.don's stock performance. These phantom stocks involve a cash settlement that complies with a set of particular standards. In 2014, EUR 0.3m were paid out to the board members in respect to phantom stocks.

**Shareholder structure**




Source: Warburg Research, co.don

## DCF model

| | Detailed forecast period | | | Transitional period | | | | | | | | | | Term. Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Figures in EUR m | 2014e | 2015e | 2016e | 2017e | 2018e | 2019e | 2020e | 2021e | 2022e | 2023e | 2024e | 2025e | 2026e | |
| Sales | 4.5 | 5.2 | 6.0 | 8.7 | 13.7 | 20.0 | 25.4 | 32.1 | 38.5 | 44.6 | 50.6 | 56.9 | 63.4 | |
| *Sales change* | *22.9 %* | *16.0 %* | *16.0 %* | *44.8 %* | *58.4 %* | *45.3 %* | *27.2 %* | *26.4 %* | *20.1 %* | *15.7 %* | *13.6 %* | *12.4 %* | *11.4 %* | *2.0 %* |
| EBIT | -2.6 | -2.0 | -1.0 | 0.3 | 1.2 | 2.9 | 4.1 | 6.3 | 9.5 | 11.2 | 12.7 | 14.2 | 15.9 | |
| *EBIT-margin* | *-58.0 %* | *-38.0 %* | *-17.0 %* | *3.9 %* | *9.0 %* | *14.7 %* | *16.2 %* | *19.6 %* | *24.7 %* | *25.0 %* | *25.0 %* | *25.0 %* | *25.0 %* | |
| *Tax rate (EBT)* | *-0.1 %* | *-0.1 %* | *-0.2 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *12.0 %* | *15.0 %* | *28.0 %* | *28.0 %* | *28.0 %* | |
| NOPAT | -2.6 | -2.0 | -1.0 | 0.3 | 1.1 | 2.6 | 3.6 | 5.5 | 8.4 | 9.5 | 9.1 | 10.2 | 11.4 | |
| Depreciation | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.3 | 1.5 | 1.7 | 1.9 | |
| *in % of Sales* | *5.0 %* | *5.0 %* | *5.0 %* | *3.5 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | *3.0 %* | |
| Changes in provisions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Change in Liquidity from | | | | | | | | | | | | | | |
| - Working Capital | -0.5 | 0.7 | 0.0 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | |
| - Capex | 0.2 | 0.7 | 0.2 | 0.7 | 1.1 | 0.7 | 0.9 | 1.1 | 1.3 | 1.6 | 1.8 | 2.0 | 2.2 | |
| *Capex in % of Sales* | *4.5 %* | *13.6 %* | *3.3 %* | *8.0 %* | *8.0 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | *3.5 %* | |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Free Cash Flow (WACC Model) | -2.0 | -3.1 | -0.9 | -0.2 | 0.1 | 2.2 | 3.2 | 5.0 | 7.9 | 9.0 | 8.6 | 9.7 | 10.8 | 12 |
| PV of FCF | -2.1 | -2.9 | -0.8 | -0.2 | 0.1 | 1.3 | 1.8 | 2.5 | 3.5 | 3.6 | 3.1 | 3.2 | 3.2 | 38 |
| share of PVs | -10.49 % | | | 40.53 % | | | | | | | | | | 69.96 % |

**Model parameter**

| | | | |
|---|---|---|---|
| Derivation of WACC: | | Derivation of Beta: | |
| Debt ratio | 0.00 % | Financial Strength | 1.80 |
| Cost of debt (after tax) | 4.2 % | Liquidity (share) | 1.60 |
| Market return | 7.00 % | Cyclicality | 1.70 |
| Risk free rate | 1.50 % | Transparency | 1.50 |
| | | Others | 2.00 |
| **WACC** | **10.96 %** | **Beta** | **1.72** |

**Valuation (m)**

| | | | |
|---|---|---|---|
| Present values 2026e | 16 | | |
| Terminal Value | 38 | | |
| Financial liabilities | 0 | | |
| Pension liabilities | 0 | | |
| Hybrid capital | 0 | | |
| Minority interest | 0 | | |
| Market val. of investments | 0 | | |
| Liquidity | 5 | No. of shares (m) | 13.7 |
| **Equity Value** | **60** | **Value per share (EUR)** | **4.37** |

**Sensitivity Value per Share (EUR)**

| | | Terminal Growth | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Beta** | WACC | 1.25 % | 1.50 % | 1.75 % | **2.00 %** | 2.25 % | 2.50 % | 2.75 % |
| **1.90** | 12.0 % | 3.56 | 3.61 | 3.66 | 3.72 | 3.78 | 3.84 | 3.90 |
| **1.81** | 11.5 % | 3.84 | 3.90 | 3.96 | 4.02 | 4.09 | 4.16 | 4.24 |
| **1.77** | 11.2 % | 3.99 | 4.05 | 4.12 | 4.19 | 4.27 | 4.34 | 4.43 |
| **1.72** | 11.0 % | 4.15 | 4.22 | 4.29 | **4.37** | 4.45 | 4.53 | 4.62 |
| **1.67** | 10.7 % | 4.32 | 4.40 | 4.48 | 4.56 | 4.65 | 4.74 | 4.84 |
| **1.63** | 10.5 % | 4.50 | 4.58 | 4.67 | 4.76 | 4.85 | 4.96 | 5.06 |
| **1.54** | 10.0 % | 4.90 | 5.00 | 5.10 | 5.20 | 5.32 | 5.44 | 5.57 |

| | | Delta EBIT-margin | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Beta** | WACC | -1.5 pp | -1.0 pp | -0.5 pp | **+0.0 pp** | +0.5 pp | +1.0 pp | +1.5 pp |
| **1.90** | 12.0 % | 3.44 | 3.53 | 3.63 | 3.72 | 3.81 | 3.90 | 4.00 |
| **1.81** | 11.5 % | 3.73 | 3.83 | 3.93 | 4.02 | 4.12 | 4.22 | 4.32 |
| **1.77** | 11.2 % | 3.88 | 3.99 | 4.09 | 4.19 | 4.29 | 4.40 | 4.50 |
| **1.72** | 11.0 % | 4.05 | 4.16 | 4.26 | **4.37** | 4.48 | 4.58 | 4.69 |
| **1.67** | 10.7 % | 4.23 | 4.34 | 4.45 | 4.56 | 4.67 | 4.78 | 4.89 |
| **1.63** | 10.5 % | 4.42 | 4.53 | 4.64 | 4.76 | 4.87 | 4.99 | 5.10 |
| **1.54** | 10.0 % | 4.83 | 4.96 | 5.08 | 5.20 | 5.33 | 5.45 | 5.57 |

- Europe-wide authorisation is earliest expected in 2017.
- Upstream sales activities in 2016 are expected to lead to a significant revenue increase in 2017.
- Break-even is operationally expected on an EBITDA level (2015) but expenses for the authorisation still burden.
- After reduced expenses for the authorisation beyond 2017, total break-even is expected.

## Valuation

| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| Price / Book | 10.3 x | 3.9 x | 2.7 x | 5.7 x | 11.0 x | 18.9 x | 30.4 x |
| Book value per share ex intangibles | 0.17 | 0.32 | 0.36 | 0.14 | 0.29 | 0.15 | 0.08 |
| EV / Sales | 10.7 x | 3.6 x | 3.0 x | 2.5 x | 9.3 x | 8.6 x | 7.5 x |
| EV / EBITDA | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| EV / EBIT | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| EV / EBIT adj.* | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| P / FCF | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| P / E | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| P / E adj.* | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Dividend Yield | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| Free Cash Flow Yield Potential | -5.7 % | -10.3 % | -28.2 % | -27.0 % | -5.7 % | -3.9 % | -1.6 % |

*Adjustments made for: -

## Company Specific Items

| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| Surgeries | 762 | 849 | 950 | 1,085 | 1,200 | 1,291 | 1,497 |

## Consolidated profit & loss

| In EUR m | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| **Sales** | **2.1** | **2.3** | **2.7** | **3.6** | **4.5** | **5.2** | **6.0** |
| Change Sales yoy | n.a. | 8.0 % | 16.3 % | 34.5 % | 22.9 % | 16.0 % | 16.0 % |
| Increase / decrease in inventory | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Own work capitalised | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total Sales** | **2.1** | **2.3** | **2.7** | **3.6** | **4.5** | **5.2** | **6.0** |
| Material Expenses | 0.7 | 1.4 | 1.4 | 1.4 | 1.6 | 1.7 | 1.8 |
| **Gross profit** | **1.5** | **1.0** | **1.3** | **2.3** | **2.8** | **3.5** | **4.2** |
| *Gross profit margin* | *68.8 %* | *41.2 %* | *49.2 %* | *62.7 %* | *63.0 %* | *67.0 %* | *70.0 %* |
| Personnel expenses | 1.7 | 1.8 | 2.1 | 2.8 | 2.7 | 3.0 | 3.4 |
| Other operating income | 0.2 | 1.4 | 1.0 | 0.5 | 0.7 | 0.8 | 0.9 |
| Other operating expenses | 1.3 | 1.4 | 2.5 | 2.4 | 3.2 | 2.9 | 2.5 |
| Unfrequent items | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **EBITDA** | **-1.3** | **-0.9** | **-2.2** | **-2.5** | **-2.4** | **-1.7** | **-0.7** |
| *Margin* | *-61.1 %* | *-37.1 %* | *-83.1 %* | *-68.4 %* | *-53.0 %* | *-33.0 %* | *-12.0 %* |
| Depreciation of fixed assets | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 |
| **EBITA** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| Amortisation of intangible assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Goodwill amortization | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **EBIT** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| *Margin* | *-66.9 %* | *-43.9 %* | *-88.4 %* | *-73.5 %* | *-58.0 %* | *-38.0 %* | *-17.0 %* |
| **EBIT adj.** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| Interest income | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Interest expenses | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other financial income (loss) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **EBT** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| *Margin* | *-66.7 %* | *-43.5 %* | *-88.3 %* | *-74.0 %* | *-58.0 %* | *-38.0 %* | *-17.0 %* |
| Total taxes | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net income from continuing operations** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| Income from discontinued operations (net of tax) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net income before minorities** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| Minority interest | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net income** | **-1.4** | **-1.0** | **-2.4** | **-2.7** | **-2.6** | **-2.0** | **-1.0** |
| *Margin* | *-66.8 %* | *-43.7 %* | *-88.4 %* | *-74.1 %* | *-58.0 %* | *-38.0 %* | *-17.0 %* |
| Number of shares, average | 13.1 | 7.1 | 10.7 | 11.1 | 13.7 | 13.7 | 13.7 |
| **EPS** | **-0.11** | **-0.14** | **-0.22** | **-0.24** | **-0.19** | **-0.14** | **-0.07** |
| EPS adj. | -0.11 | -0.14 | -0.22 | -0.24 | -0.19 | -0.14 | -0.07 |

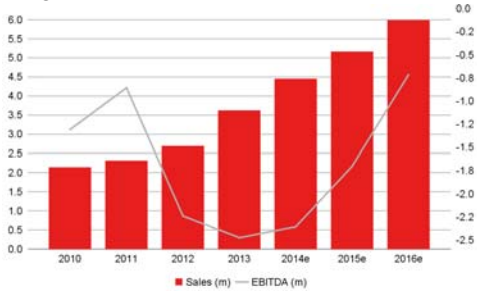
*Adjustments made for:

**Guidance: Positive revenue and yearly earnings development.**

## Financial Ratios

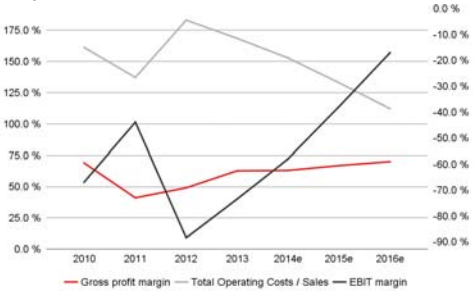
| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| Total Operating Costs / Sales | 161.1 % | 137.1 % | 183.1 % | 168.4 % | 153.0 % | 133.0 % | 112.0 % |
| Operating Leverage | n.a. | -3.7 x | 8.3 x | 0.3 x | -0.1 x | -1.5 x | -3.0 x |
| Tax rate (EBT) | -0.2 % | -0.2 % | -0.1 % | -0.1 % | -0.1 % | -0.1 % | -0.2 % |
| Dividend Payout Ratio | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| Sales per Employee | 61,286 | 59,385 | 62,628 | 72,443 | 80,909 | 93,870 | 108,864 |

**Sales, EBITDA**
in EUR m



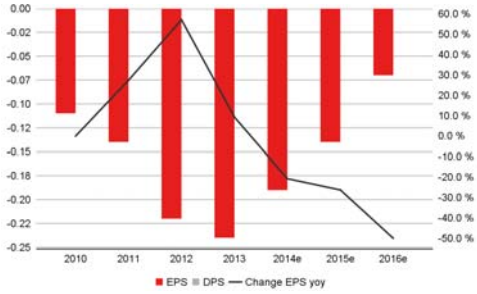

Source: Warburg Research

**Operating Performance**
in %




Source: Warburg Research

**Performance per Share**




Source: Warburg Research

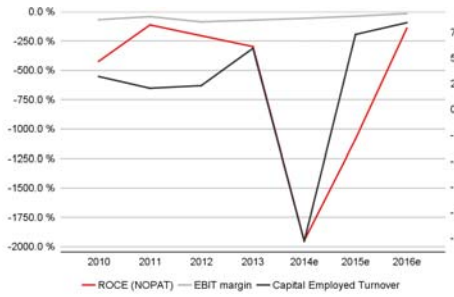
## Consolidated balance sheet

| In EUR m | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| Goodwill and other intangible assets | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 |
| thereof other intangible assets | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 |
| thereof Goodwill | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Property, plant and equipment | 0.7 | 0.7 | 0.6 | 0.9 | 0.8 | 1.1 | 0.9 |
| Financial assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other long-term assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Fixed assets** | **0.9** | **0.8** | **0.8** | **1.1** | **1.0** | **1.4** | **1.3** |
| Inventories | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| Accounts receivable | 0.2 | 0.2 | 0.6 | 0.5 | 0.0 | 0.7 | 0.8 |
| Liquid assets | 1.7 | 1.3 | 2.8 | 1.2 | 4.5 | 1.7 | 0.8 |
| Other short-term assets | 0.1 | 0.5 | 0.8 | 0.5 | 1.1 | 1.1 | 1.1 |
| **Current assets** | **2.1** | **2.1** | **4.4** | **2.3** | **5.8** | **3.8** | **2.9** |
| **Total Assets** | **3.1** | **3.0** | **5.2** | **3.4** | **6.8** | **5.2** | **4.3** |
| **Liabilities and shareholders' equity** | | | | | | | |
| Subscribed capital | 13.1 | 7.1 | 10.7 | 11.1 | 13.7 | 13.7 | 13.7 |
| Capital reserve | 22.0 | 0.0 | 0.4 | 0.4 | 2.8 | 2.8 | 2.8 |
| Retained earnings | -32.7 | -4.6 | -7.0 | -9.7 | -12.3 | -14.2 | -15.3 |
| Other equity components | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.3 |
| Shareholder's equity | 2.4 | 2.5 | 4.0 | 1.8 | 4.2 | 2.4 | 1.5 |
| Minority interest | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total equity** | **2.4** | **2.5** | **4.0** | **1.8** | **4.2** | **2.4** | **1.5** |
| Provisions | 0.4 | 0.3 | 0.7 | 1.0 | 1.7 | 1.7 | 1.7 |
| thereof provisions for pensions and similar obligations | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Financial liabilites (total) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| thereof short-term financial liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Accounts payable | 0.2 | 0.2 | 0.4 | 0.4 | 0.5 | 0.6 | 0.7 |
| Other liabilities | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 0.5 | 0.5 |
| **Liabilities** | **0.6** | **0.5** | **1.2** | **1.6** | **2.6** | **2.7** | **2.8** |
| **Total liabilities and shareholders' equity** | **3.1** | **3.0** | **5.2** | **3.4** | **6.8** | **5.2** | **4.3** |

## Financial Ratios

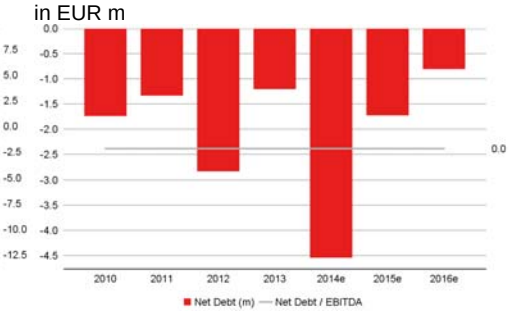
| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| **Efficiency of Capital Employment** | | | | | | | |
| Operating Assets Turnover | 2.8 x | 2.8 x | 2.7 x | 3.5 x | 12.0 x | 3.6 x | 4.9 x |
| Capital Employed Turnover | 3.2 x | 2.0 x | 2.3 x | 5.9 x | -12.9 x | 7.3 x | 8.5 x |
| ROA | -155.8 % | -119.5 % | -307.2 % | -233.7 % | -257.7 % | -136.0 % | -75.8 % |
| **Return on Capital** | | | | | | | |
| ROCE (NOPAT) | -424.8 % | -111.6 % | -205.7 % | -299.3 % | -1949.7 % | -1085.9 % | -144.0 % |
| ROE | -118.7 % | -41.3 % | -73.4 % | -92.2 % | -85.9 % | -59.2 % | -51.7 % |
| Adj. ROE | -118.7 % | -41.3 % | -73.4 % | -92.2 % | -85.9 % | -59.2 % | -51.7 % |
| **Balance sheet quality** | | | | | | | |
| Net Debt | -1.7 | -1.3 | -2.8 | -1.2 | -4.5 | -1.7 | -0.8 |
| Net Financial Debt | -1.7 | -1.3 | -2.8 | -1.2 | -4.5 | -1.7 | -0.8 |
| Net Gearing | -72.0 % | -53.7 % | -70.8 % | -66.3 % | -108.2 % | -70.9 % | -53.2 % |
| Net Fin. Debt / EBITDA | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Book Value / Share | 0.2 | 0.3 | 0.4 | 0.2 | 0.3 | 0.2 | 0.1 |
| Book value per share ex intangibles | 0.2 | 0.3 | 0.4 | 0.1 | 0.3 | 0.2 | 0.1 |

**ROCE Development**



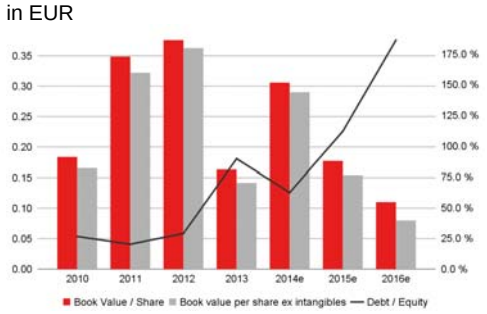

Source: Warburg Research

**Net debt**
in EUR m




Source: Warburg Research

**Book Value per Share**
in EUR




Source: Warburg Research

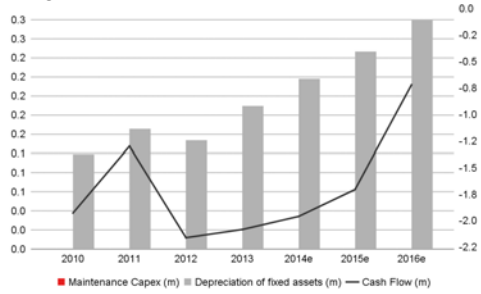
## Consolidated cash flow statement

| In EUR m | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| Net income | -1.4 | -1.0 | -2.4 | -2.7 | -2.6 | -2.0 | -1.0 |
| Depreciation of fixed assets | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 |
| Amortisation of goodwill | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Amortisation of intangible assets | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Increase/decrease in long-term provisions | -0.6 | -0.1 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 |
| Other non-cash income and expenses | 0.0 | -0.3 | -0.4 | 0.3 | 0.4 | 0.0 | 0.0 |
| **Cash Flow** | **-1.9** | **-1.3** | **-2.2** | **-2.1** | **-2.0** | **-1.7** | **-0.7** |
| Increase / decrease in inventory | 0.0 | -0.1 | -0.4 | 0.2 | 0.0 | -0.1 | 0.0 |
| Increase / decrease in accounts receivable | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | -0.7 | -0.1 |
| Increase / decrease in accounts payable | 0.1 | 0.0 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 |
| Increase / decrease in other working capital positions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Increase / decrease in working capital (total) | 0.1 | -0.1 | -0.2 | 0.5 | 0.5 | -0.4 | 0.0 |
| **Net cash provided by operating activities** | **-1.8** | **-1.4** | **-2.3** | **-1.6** | **-1.4** | **-2.1** | **-0.7** |
| Investments in intangible assets | 0.0 | 0.0 | 0.0 | -0.3 | -0.1 | -0.1 | -0.1 |
| Investments in property, plant and equipment | 0.0 | 0.0 | 0.0 | -0.3 | -0.1 | -0.6 | -0.1 |
| Payments for acquisitions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Financial investments | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Income from asset disposals | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net cash provided by investing activities** | **0.0** | **-0.1** | **-0.1** | **-0.6** | **-0.2** | **-0.7** | **-0.2** |
| Change in financial liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Dividends paid | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Purchase of own shares | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Capital measures | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 |
| Other | 2.0 | 1.1 | 3.9 | 0.5 | 0.0 | 0.0 | 0.0 |
| **Net cash provided by financing activities** | **2.0** | **1.1** | **3.9** | **0.5** | **5.0** | **0.0** | **0.0** |
| Change in liquid funds | 0.1 | -0.4 | 1.5 | -1.6 | 3.3 | -2.8 | -0.9 |
| Effects of exchange-rate changes on cash | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Cash and cash equivalent at end of period** | **1.7** | **1.3** | **2.8** | **1.2** | **4.5** | **1.7** | **0.8** |

## Financial Ratios

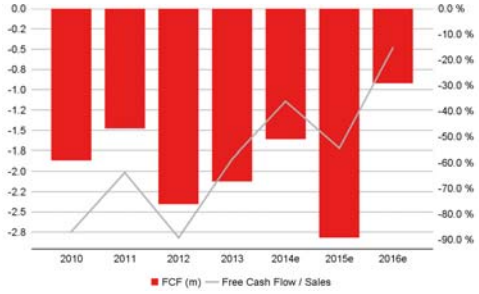
| | 2010 | 2011 | 2012 | 2013 | 2014e | 2015e | 2016e |
|---|---|---|---|---|---|---|---|
| **Cash Flow** | | | | | | | |
| FCF | -1.9 | -1.5 | -2.4 | -2.1 | -1.6 | -2.8 | -0.9 |
| Free Cash Flow / Sales | -87.0 % | -63.8 % | -89.3 % | -58.6 % | -36.2 % | -54.6 % | -15.4 % |
| Free Cash Flow Potential | -1.3 | -0.9 | -2.2 | -2.5 | -2.4 | -1.7 | -0.7 |
| Free Cash Flow / Sales | -87.0 % | -63.8 % | -89.3 % | -58.6 % | -36.2 % | -54.6 % | -15.4 % |
| Free Cash Flow / Net Profit | 130.2 % | 146.2 % | 101.0 % | 79.1 % | 62.3 % | 143.5 % | 90.3 % |
| Interest Received / Avg. Cash | 0.6 % | 0.5 % | 0.1 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| Interest Paid / Avg. Debt | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| **Management of Funds** | | | | | | | |
| Investment ratio | 1.2 % | 3.5 % | 2.6 % | 15.5 % | 4.5 % | 13.6 % | 3.3 % |
| Maint. Capex / Sales | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| Capex / Dep | 21.0 % | 51.6 % | 49.3 % | 299.8 % | 89.9 % | 271.2 % | 66.8 % |
| Avg. Working Capital / Sales | 2.1 % | 5.4 % | 9.7 % | 6.8 % | -3.2 % | -1.2 % | 4.9 % |
| Trade Debtors / Trade Creditors | 116.7 % | 155.6 % | 182.7 % | 111.6 % | 0.0 % | 116.7 % | 114.3 % |
| Inventory Turnover | 11.5 x | 16.4 x | 18.0 x | 15.4 x | 18.7 x | 8.5 x | 9.0 x |
| Receivables collection period (days) | 37 | 39 | 87 | 48 | 0 | 49 | 49 |
| Payables payment period (days) | 101 | 43 | 94 | 116 | 111 | 129 | 142 |
| Cash conversion cycle (Days) | -67 | -21 | -70 | -91 | -92 | -81 | -97 |

**CAPEX and Cash Flow**
in EUR m



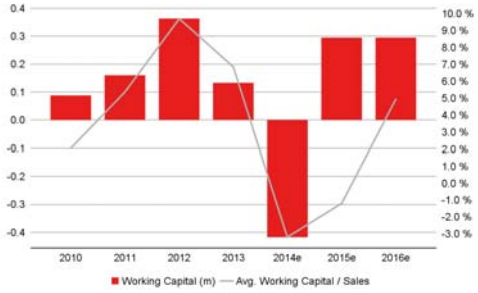

Source: Warburg Research

**Free Cash Flow Generation**




Source: Warburg Research

**Working Capital**




Source: Warburg Research

## LEGAL DISCLAIMER

This research report was prepared by the Warburg Research GmbH, a subsidiary of the M.M.Warburg & CO (AG & Co.) KGaA and is passed on by the M.M.Warburg & CO (AG & Co.) KGaA. It contains selected information and does not purport to be complete. The report is based on publicly available information and data ("the information") believed to be accurate and complete. Warburg Research GmbH neither does examine the information to be accurate and complete, nor guarantees its accuracy and completeness. Possible errors or incompleteness of the information do not constitute grounds for liability of M.M.Warburg & CO (AG & Co.) KGaA or Warburg Research GmbH for damages of any kind whatsoever, and M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are not liable for indirect and/or direct and/or consequential damages. In particular, neither M.M.Warburg & CO (AG & Co.) KGaA nor Warburg Research GmbH are liable for the statements, plans or other details contained in these analyses concerning the examined companies, their affiliated companies, strategies, economic situations, market and competitive situations, regulatory environment, etc. Although due care has been taken in compiling this research report, it cannot be excluded that it is incomplete or contains errors. M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH, their shareholders and employees are not liable for the accuracy and completeness of the statements, estimations and the conclusions derived from the information contained in this document. Provided a research report is being transmitted in connection with an existing contractual relationship, i.e. financial advisory or similar services, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH shall be restricted to gross negligence and wilful misconduct. In case of failure in essential tasks, M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are liable for normal negligence. In any case, the liability of M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH is limited to typical, expectable damages. This research report does not constitute an offer or a solicitation of an offer for the purchase or sale of any security. Partners, directors or employees of M.M.Warburg & CO (AG & Co.) KGaA, Warburg Research GmbH or affiliated companies may serve in a position of responsibility, i.e. on the board of directors of companies mentioned in the report. Opinions expressed in this report are subject to change without notice. 

## COPYRIGHT NOTICE



## DISCLOSURE ACCORDING TO §34B (1) OF THE GERMAN SECURITIES TRADING ACT (WHPG) AND THE ORDINANCE ON THE ANALYSIS OF FINANCIAL INSTRUMENTS (FINANV)

The valuation underlying the investment recommendation for the company analysed here is based on generally accepted and widely used methods of fundamental analysis, such as e.g. DCF Model, Free Cash Flow Potential, Peer Group Comparison or Sum of the Parts Model. The result of this fundamental valuation is modified to take into consideration the analyst's assessment as regards the expected development of investor sentiment and its impact on the share price.

Independent of the applied valuation methods, there is the risk that the price target will not be met, for instance because of unforeseen changes in demand for the company's products, changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, tax rate etc. For investments in foreign markets and instruments there are further risks, generally based on exchange rate changes or changes in political and social conditions.

This commentary reflects the opinion of the relevant author at the point in time of its compilation. A change in the fundamental factors underlying the valuation can mean that the valuation is subsequently no longer accurate. Whether, or in what time frame, an update of this commentary follows is not determined in advance.

In accordance with § 5 (4) of the Ordinance on the Analysis of Financial Instruments (FinAnV) Warburg Research GmbH has implemented additional internal and organisational arrangements to prevent or to deal with conflicts of interest. Among these are the spatial separation of Warburg Research GmbH from M.M.Warburg & CO (AG & Co.) KGaA and the creation of areas of confidentiality. This prevents the exchange of information, which could form the basis of conflicts of interest for Warburg Research in terms of the analysed issuers or their financial instruments.

The analysts of Warburg Research GmbH do not receive a gratuity – directly or indirectly – from the investment banking activities of M.M.Warburg & CO (AG & Co.) KGaA or of any company within the Warburg Group.

All prices of financial instruments given in this financial analysis are the closing prices on the last stock-market trading day before the publication date stated, unless another point in time is explicitly stated.

M.M.Warburg & CO (AG & Co.) KGaA and Warburg Research GmbH are subject to the supervision of the Federal Financial Supervisory Authority, BaFin.

## SOURCES

All data and consensus estimates have been obtained from FactSet except where stated otherwise.

**Reference in accordance with section 34b of the German Securities Trading Act (WpHG) and the Ordiance on the Analysis of Financial Instruments (FinAnV) regarding possible conflicts of interest with the analysed company:**

**-1-** The company preparing the analysis or any of its affiliated companies hold over **5% of shares** in the analysed company's equity capital.

**-2-** Within the last twelve months, the company preparing the analysis or any of its affiliated companies have participated in the management of a **consortium** for the public offering of financial securities, which are (or the issuer of which) is the subject of the analysis.

**-3-** The company preparing the analysis or any of its affiliated companies **manage the securities** of the analysed company on the grounds of an existing contract.

**-4-** On the grounds of an existing contract, the company preparing the analysis or any of its affiliated companies, have managed **investment banking services** for the analysed company within the last twelve months, out of which a service or the promise of a has service emerged.

**-5-** The company preparing the analysis and the analysed company came to an **agreement regarding the preparation of the financial analysis**.

**-6-** The company preparing the analysis or any of its affiliated companies **regularly trade** in shares or derivatives of the analysed company.

**-7-** The company preparing the analysis as well as its affiliated companies and employees have **other important interests** in relation to the analysed company, such as, for example, the exercising of mandates at analysed companies.

This report has been made accessible to the company analysed.

| Company | Disclosure | Link to the historical price targets and rating changes (last 12 months) |
|---|---|---|
| **co.don** | 5 | http://www.mmwarburg.com/disclaimer/disclaimer_en/DE000A1K0227.htm |

## INVESTMENT RECOMMENDATION

Investment recommendation: expected direction of the share price development of the financial instrument up to the given price target in the opinion of the analyst who covers this financial instrument.

| | | |
|---|---|---|
| -B- | **Buy:** | The price of the analysed financial instrument is expected to rise over the next 12 months. |
| -H- | **Hold:** | The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months. |
| -S- | **Sell:** | The price of the analysed financial instrument is expected to fall over the next 12 months. |
| "-" | **Rating suspended:** | The available information currently does not permit an evaluation of the company. |

## WARBURG RESEARCH GMBH – RESEARCH UNIVERSE BY RATING

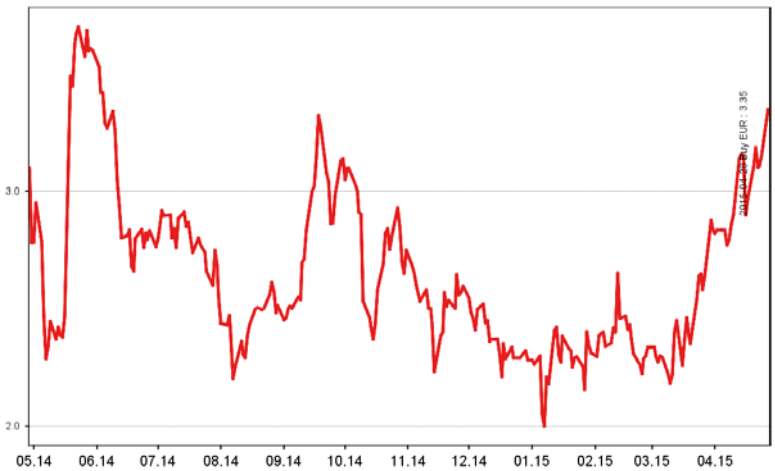
| Rating | Number of stocks | % of Universe |
|---|---|---|
| Buy | 100 | 55 |
| Hold | 69 | 38 |
| Sell | 9 | 5 |
| Rating suspended | 4 | 2 |
| **Total** | **182** | **100** |

## WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

**… Looking only at companies for which a disclosure according to § 34b of the Germany Securities Trading Act and the FinAnV has to be made.**

| Rating | Number of stocks | % of Universe |
|---|---|---|
| Buy | 81 | 59 |
| Hold | 48 | 35 |
| Sell | 5 | 4 |
| Rating suspended | 3 | 2 |
| **Total** | **137** | **100** |

## PRICE AND RATING HISTORY CO.DON AS OF 28.04.2015




The chart has markings if Warburg Research GmbH changed its rating in the last 12 months. Every marking represents the date and closing price on the day of the rating change.

## EQUITIES

**Roland Rapelius** +49 40 3282-2673
Head of Equities rrapelius@mmwarburg.com

## RESEARCH

**Henner Rüschmeier** +49 40 309537-270
Head of Research hrueschmeier@warburg-research.com

**Lucas Boventer** +49 40 309537-290
Others lboventer@warburg-research.com

**Christian Cohrs** +49 40 309537-175
Engineering, Logistics ccohrs@warburg-research.com

**Felix Ellmann** +49 40 309537-120
Software, IT fellmann@warburg-research.com

**Jörg Philipp Frey** +49 40 309537-258
Retail, Consumer Goods jfrey@warburg-research.com

**Harald Hof** +49 40 309537-125
Medtech hhof@warburg-research.com

**Ulrich Huwald** +49 40 309537-255
Health Care, Pharma uhuwald@warburg-research.com

**Thilo Kleibauer** +49 40 309537-257
Retail, Consumer Goods tkleibauer@warburg-research.com

**Eggert Kuls** +49 40 309537-256
Engineering ekuls@warburg-research.com

**Frank Laser** +49 40 309537-235
Construction, Industrials flaser@warburg-research.com

**Andreas Pläsier** +49 40 309537-246
Banks, Financial Services aplaesier@warburg-research.com

**Malte Räther** +49 40 309537-185
Technology, Telco, Internet mraether@warburg-research.com

**Jochen Reichert** +49 40 309537-130
Telco, Internet, Media jreichert@warburg-research.com

**Arash Roshan Zamir** +49 40 309537-155
Engineering, Logistics aroshanzamir@warburg-research.com

**Malte Schaumann** +49 40 309537-170
Technology mschaumann@warburg-research.com

**Oliver Schwarz** +49 40 309537-250
Chemicals, Agriculture oschwarz@warburg-research.com

**Marc-René Tonn** +49 40 309537-259
Automobiles, Car Suppliers mtonn@warburg-research.com

**Björn Voss** +49 40 309537-254
Steel, Car Suppliers bvoss@warburg-research.com

**Andreas Wolf** +49 40 309537-140
Software, IT awolf@warburg-research.com

**Stephan Wulf** +49 40 309537-150
Utilities swulf@warburg-research.com

## INSTITUTIONAL EQUITY SALES

**Holger Nass** +49 40 3282-2669
Head of Equity Sales, USA hnass@mmwarburg.com

**Klaus Schilling** +49 40 3282-2664
Dep. Head of Equity Sales, GER kschilling@mmwarburg.com

**Christian Alisch** +49 40 3282-2667
Scandinavia, Spain calisch@mmwarburg.com

**Tim Beckmann** +49 40 3282-2665
United Kingdom tbeckmann@mmwarburg.com

**Matthias Fritsch** +49 40 3282-2696
United Kingdom mfritsch@mmwarburg.com

**Marie-Therese Grübner** +49 40 3282-2630
France mgruebner@mmwarburg.com

**Ömer Güven** +49 40 3282-2633
USA, Germany ogueven@mmwarburg.com

**Michael Kriszun** +49 40 3282-2695
United Kingdom mkriszun@mmwarburg.com

**Marc Niemann** +49 40 3282-2660
Germany mniemann@mmwarburg.com

**Sanjay Oberoi** +49 69 5050-7410
United Kingdom soberoi@mmwarburg.com

**Philipp Stumpfegger** +49 40 3282-2635
Australia, United Kingdom pstumpfegger@mmwarburg.com

**Juliane Willenbruch** +49 40 3282-2694
Roadshow/Marketing jwillenbruch@mmwarburg.com

## SALES TRADING

**Oliver Merckel** +49 40 3282-2634
Head of Sales Trading omerckel@mmwarburg.com

**Thekla Struve** +49 40 3282-2668
Dep. Head of Sales Trading tstruve@mmwarburg.com

**Gudrun Bolsen** +49 40 3282-2679
Sales Trading gbolsen@mmwarburg.com

**Michael Ilgenstein** +49 40 3282-2700
Sales Trading milgenstein@mmwarburg.com

**Bastian Quast** +49 40 3282-2701
Sales Trading bquast@mmwarburg.com

**Jörg Treptow** +49 40 3262-2658
Sales Trading jtreptow@mmwarburg.com

**Jan Walter** +49 40 3262-2662
Sales Trading jwalter@mmwarburg.com

## MACRO RESEARCH

**Carsten Klude** +49 40 3282-2572
Macro Research cklude@mmwarburg.com

**Matthias Thiel** +49 40 3282-2401
Macro Research mthiel@mmwarburg.com

**Dr. Christian Jasperneite** +49 40 3282-2439
Investment Strategy cjasperneite@mmwarburg.com

## Our research can be found under:

| | | | |
|---|---|---|---|
| Warburg Research | research.mmwarburg.com/en/index.html | Thomson | www.thomson.com |
| Bloomberg | MMWA GO | Reuters | www.knowledge.reuters.com |
| FactSet | www.factset.com | Capital IQ | www.capitaliq.com |

## For access please contact:

**Andrea Schaper** +49 40 3282-2632
Sales Assistance aschaper@mmwarburg.com

**Kerstin Muthig** +49 40 3282-2703
Sales Assistance kmuthig@mmwarburg.com