"Safe Harbor" Statement
This presentation contains forward-looking statements - that is, statements related to future, not past, events. These statements may be identified either orally or in writing by words as "expects", "anticipates", "intends", "plans", "believes", "seeks", "estimates", "will", "may" or words of similar meaning. Such statements are based on our current expectations and assumptions, and therefore are subject to various risks and uncertainties that could cause the actual results, performance or achievements to differ materially from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. These factors include, without limitation, those discussed in our public reports filed with the Frankfurt Stock Exchange. The company does not assume any obligations to update or revise any of these forward-looking statements, even if new information becomes available in the future.
2015 – Highlights at a glance
Immunotherapies moved into clinical-stage

- Own phase I/II trial with DC vaccines started for the treatment of acute myeloid leukaemia (AML)
- Clinical data on DC vaccines presented at AACR and ASH by our academic partners
- EndoTAG® sold in its entirety to SynCore
- Successful capital increase completed to finance the immunotherapy programmes
- Spin-off Catherex Inc. sold to Amgen Inc.
- Patent portfolio strengthened for our immunotherapies
More highlights Q1-2016

**DCs:**

- Patient recruitment and safety evaluation of Phase I part of AML study successfully completed – study to be moved into Phase II
- Patent portfolio strengthened

**TCRs:**

- Viral vector production capacities for clinical TCR studies secured
- Collaboration with University of Lausanne for characterization of TCRs
Immunotherapy Programmes
Progress and Outlook
Medigene combines highly complementary platforms to treat different kinds of cancer

- Strong cash position
- Ongoing Phase I/II DC study in AML
- Immunotherapy clinical programme in TCR to be initiated
Medigene’s immunotherapies are tailored to address different types and stages of cancer

**DCs**
- DC vaccines
- Low tumour burden

**TCRs**
- TCR-modified T cells
- High tumour burden

**TABs**
- T cell-specific mabs
- Unwanted T cells

Legend:
- Tumour
- T cell
- DC Vaccine
- TCR-modified T cell
- Pathogenic T cell
# Medigene’s immunotherapy pipeline and current IIT trials

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>INDICATION</th>
<th>PRECLINICAL/RESEARCH</th>
<th>PHASE I</th>
<th>PHASE II</th>
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<td>DC Vaccine Study</td>
<td>Prostate cancer*</td>
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<tr>
<td>DC Vaccine Study</td>
<td>AML**</td>
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<td>TCR Study</td>
<td>Cancer***</td>
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<td>2018</td>
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<td>TABs</td>
<td>T-cell leukaemias + new applications</td>
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</table>

* Investigator initiated trial (IIT) Oslo University Hospital  
** Investigator initiated trial (IIT) Ludwig-Maximilians University Hospital  
***Investigator initiated trial (IIT) with Medigene being part of the consortium, pending grant funding
**Therapeutic dendritic cell (DC) vaccines**

**Dendritic cell (DC) vaccines:**
induce the maturation of own, cancer-specific dendritic cells and trigger both T cells and natural killer cells to attack the tumour

**Adoptive T cell therapy with TCRs:**
arms patient-derived T cells ex vivo with suitable T cell receptors that enable them to detect and efficiently kill cancer cells in vivo

**T cell-specific antibodies (TABs):**
deplete unwanted T cells and track TCR-modified T cells
Medigene’s “new generation” DCs mature fast and show optimal immunotherapeutic potential

1st generation immature DCs

GM-CSF + IL-4

2-3 days

5-7 days

Maturation cocktail (2nd generation)

2nd generation 7-10-day mature DCs

IL-12^{high}

IL-10^{low}

New generation 3-day “polarized” mature DCs

“New generation” maturation cocktail with TLR 7/8 agonist

Optimised interleukin (IL) secretion pattern for innate and adaptive immunotherapy

monocytes

monocytes
2015: Full-scope DC technology platform implemented and transferred into clinical stage

1. Library of antigens
2. Preparation of “new generation DCs”
3. Assessment of antigen loading

4. Quality testing
5. Selection for clinical indication
6. GMP production & treatment

- Surface phenotype
- Migration capacity
- Cytokine production
- Natural killer cell activation
- Recognition by primed CTL
- De novo priming of T cells
- Th1 polarization of T cells

Antigen

92% 12.7 MFI

Patient individualized DC vaccine

Patient blood
Lead indication acute myeloid leukaemia (AML) - High medical need

Disease characteristics:

- Most common type of leukaemia in adults
- About 20,830 cases in USA*
- Median age at diagnosis: 63 years
- 5-year survival rate - adults < 65 years of age: 20 - 50%
  adults > 65 years of age: 2 - 10%

*Source: NIH, SEER Stat Fact Sheets: Acute Myeloid Leukemia (AML)
Medigene’s DC vaccines provide new therapy options for older AML patients

- Intense induction chemotherapy
- MRD or Relapse
- Therapy with Medigene’s “new generation” DC vaccines
- Consolidation therapy and potential cure
- Allogeneic stem cell transplantation
- Potential cure
- Potential cure
- Long-term remission

Evaluation of the patient: age/co-morbidity/ genetic profile of leukemia
Medigene’s DC vaccines provide new therapy options for older AML patients

Evaluation of the patient: age/co-morbidity/ genetic profile of leukemia

Intense induction chemotherapy

MRD or Relapse

Consolidation therapy and potential cure

Therapy with Medigene’s “new generation” DC vaccines

Potential cure

Potential cure

Long-term remission

Allogeneic stem cell transplantation

AML
Investigator driven studies use Medigene’s DC vaccine technology to treat AML

<table>
<thead>
<tr>
<th>Lead indication &amp; AML trials</th>
<th>Sponsor</th>
<th>Status</th>
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<tbody>
<tr>
<td><strong>Clinical Study, Investigator-initiated</strong>&lt;br&gt;• AML, intermediate and high-risk pts.&lt;br&gt;• Phase I/IIa&lt;br&gt;• Opened: Q1/2014&lt;br&gt;• 10 patients enrolled (Q4 2015)</td>
<td>Prof. M. Subklewe&lt;br&gt;Ludwig-Maximilians-University Munich&lt;br&gt;NCT01734304</td>
<td>Phase I completed&lt;br&gt;Phase II opened&lt;br&gt;Data presented at:&lt;br&gt;• CRI-CIMT-EATI-AACR 09/2015&lt;br&gt;• ASH 12/2015</td>
</tr>
<tr>
<td><strong>Compassionate Use Patients</strong>&lt;br&gt;• 5 patients with AML</td>
<td>Prof. G. Kvalheim&lt;br&gt;Dept. of Cellular Therapy&lt;br&gt;Oslo University Hospital</td>
<td>Data presented at:&lt;br&gt;• AACR 04/2015&lt;br&gt;• PIVAC 09/2015&lt;br&gt;• ASH 12/2015</td>
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</tbody>
</table>
Results from Phase I IIT* and Compassionate Use**
AML patients (presented at ASH 2015 conference by external collaborators)

- High success rate for GMP generation of DC vaccines
- Efficient logistics for DC vaccine delivery
- Vaccine antigens demonstrate immunogenicity
- T cell responses as potential biomarkers of DC activity
- Excellent safety profile of DC vaccines

*IIT at Ludwig-Maximilians-University Munich; **CU Patients at Oslo University Hospital
Medigene’s first DC vaccine Phase I/II trial started in acute myeloid leukaemia (AML) in March 2015

Trial design:
- **Phase I/II**: open-label, prospective, non-randomized trial
- **20 AML patients**: 6 phase I + 14 phase II, complete remission after chemotherapy, not eligible for allo-transplantation
- Patients selected with AML expressing the vaccine antigens: WT-1 with or without PRAME (expressed on LIC/LSC)
- **Persistent vaccination for 50** weeks and a follow-up period of one year or until progression
- Primary objectives: **feasibility** and **safety**
- Secondary objectives: induction of **immune responses**; control of minimal residual disease (MRD); clinical response: time to progression (TTP)
Status quo of Medigene’s DC vaccine Phase I/II trial

**PHASE I**
6 patients

**DSMB approval**
Granted in March 2016
Advancing into Phase II

**PHASE II**
14 patients

Treatments with Medigene’s DC vaccines
TCR-modified adoptive T cell therapy

Dendritic cell (DC) vaccines:
induce the maturation of own, cancer-specific dendritic cells and trigger both T cells and natural killer cells to attack the tumour

Adoptive T cell therapy with TCRs:
amms patient-derived T cells ex vivo with suitable T cell receptors that enable them to detect and efficiently kill cancer cells in vivo

T cell-specific antibodies (TABs):
deplete unwanted T cells and track TCR-modified T cells
Medigene’s unique TCR platform for high tumour burdens

1. Patient T cells are isolated from blood samples and activated.
2. Appropriate TCR is selected from off-the-shelf library for characterized TCRs.
3. Anti-tumour TCR is introduced using a viral vector into patient T cells.
4. Modified T cells are expanded to large numbers in 10-15 days.
5. TCR-modified T cells are reinfused into patient.
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2015: Medigene is building up its unique TCR library of “stress-tested” lead candidates

Library of therapeutic TCRs (as recombinant vectors)

TCR-1  TCR-2  TCR-3  TCR-4  TCR-5  TCR-6  TCR-7  TCR-8  TCR-9  …

TCR is selected with an HLA-peptide specificity appropriate for the patient and the tumour type

TCR-modified patient T cells

AML  NSCLC  Prostate Cancer
2015: Medigene established full-scope TCR technology platform

1. Prime T cells *in vitro*
   - CD8⁺ & CD4⁺ T cell priming with mDCs

2. Identify tumour-specific T cells
   - Specificity
   - MHC-restriction
   - Peptide sensitivity

3. Isolate TCR sequences

4. Quality testing
   - Efficacy
     - Tumour cell recognition
     - Cytokine profile
     - TCR expression
   - Safety
     - Epitope analysis
     - Self-peptide library
     - HLA allo cell panel
     - On/off-target toxicity
     - In vivo mouse models

5. Selection for clinical indication

6. GMP production & treatment
   - Patient TCR-modified T cell therapeutic
   - Patient blood sample

---

off-the-shelf TCR library
2015: Laboratories expanded for in-house Immune Monitoring

- In-house expansion of Immune Monitoring Facility
- GCP/GCLP-compliant immune monitoring for trials (e.g. Medigene’s DC study)
- Validation of clinical assays
- Essential immune monitoring tools for generation of high quality TCR lead candidates
- Immune Monitoring laboratory is now ready
- ISO 15189 accreditation planned in 2017
2015: Medigene strengthened own Immune Monitoring Facility to support the complete value chain

- Assay development
- NSG mouse model
- Multicolour ELISPOT
- Cytokine assays
- Cytotoxicity Assay
- Self-peptide analysis
- Alanine substitution analysis
- Expitope (in silico analysis)
- Nanostring methods
- Statistical data evaluation
- Interlaboratory comparisons tests
- GCP/GCLP-compliant immune monitoring
- Anti-tumour-antigen Antibody
- FACS sorting
- Multicolor flow cytometry
- Cytokine secretion assay
- Data evaluation
- Documentation
Medigene‘s TCR studies in preparation

- Developments needed to start clinical TCR studies:
  - Identification of TCRs and pre-clinical work
  - GMP-conform patient treatment development

- IIT (Charité/Berlin), pending grant funding:
  - Clinical indication selected
  - T-cell receptor selected
  - Viral vector produced by EUFETS
  - GMP process established

- Medigene‘s first company sponsored trial:
  - Additional viral vector production capacities secured at EUFETS
  - In process of selecting commercial manufacturing partner
**Dendritic cell (DC) vaccines:**
induce the maturation of own, cancer-specific dendritic cells and trigger both T cells and natural killer cells to attack the tumour

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**T cell-specific antibodies (TABs):**
deplete unwanted T cells and track TCR-modified T cells
TABs – Medigene’s unique T cell-specific antibodies

- Full-scope platform for antibody isolation
- Unique animal models to assess MoA and clinical efficacy
- Proof-of-principle of technology is established

**Removal of unwanted T cells:**
- T-cell leukaemia

**TCR-modified T cells:**
- T cell tracking *ex vivo*
- T cell removal *in vivo*

**Status quo:**
- Ongoing studies establish proof-of-concept in pre-clinical models
Financial Report 2015
## 2015 – Financial highlights

| €46.4 m | Gross proceeds from capital increase |
| +95% | Increase in R&D expenses for immunotherapies |
| +138% | Increase in share price in 2015 |
| ![Checkmark] | Financial forecast met |
Significant investments in immunotherapies resulted in increased operating expenses

<table>
<thead>
<tr>
<th>Year</th>
<th>R&amp;D Immunotherapies</th>
<th>Other R&amp;D Costs</th>
<th>Total R&amp;D Costs</th>
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<tbody>
<tr>
<td>2014</td>
<td>2.8</td>
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<td>4.7</td>
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<td>2015</td>
<td>5.5</td>
<td>3.0</td>
<td>8.5</td>
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Significant investments in immunotherapies resulted in increased operating expenses

R&D costs

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EBITDA loss

<table>
<thead>
<tr>
<th>Year</th>
<th>EBITDA Loss</th>
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<tbody>
<tr>
<td>2014</td>
<td>2.1</td>
</tr>
<tr>
<td>2015</td>
<td>9.5</td>
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</table>
Non-core business: Revenue decreased mainly due to one-off items

Other operating income
- Fewer milestones / one-off items
- Less R&D cost reimbursement
Non-core business: Revenue decreased mainly due to one-off items

Other operating income
- Fewer milestones / one-off items
- Less R&D cost reimbursement

Veregen® revenue
- Increased in-market sales and royalty revenue (+8%)
- Stock piling and fewer milestone payments
Capital increase 2015 strengthened cash position

- Gross proceeds of €46.4 m from capital increase in July 2015
- Cash position at 31 Dec 2015 of €46.8 m (31 Dec 2014: €15.0 m)
- Operative cash usage increased to €10.6 m (2014: €8.8 m)
  - Average monthly cash outflow of €0.9 m (2014: €0.7 m)
Values from legacy pipeline realized
Further focus on core business

- **EndoTAG®** sold in its entirety to SynCore
  - First payment of €1 m received in Q1-2016
  - Medigene receives €5 m from SynCore in five annual instalments and is eligible for milestone payments and royalties for EndoTAG-1

- Medigene spin-off Catherex, Inc. sold to Amgen Inc.:
  - Medigene is entitled to approximately 40% of all payments
  - Upfront payment of USD10.5 m, milestone and net sales payments for Amgen’s drug Imlygic™
  - In Q1-2016, Medigene received its part of the upfront payment and a milestone payment of USD1.2 m
Guidance 2015 met

<table>
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<th>2014</th>
<th>Revised Guidance 2015</th>
<th>Actual 2015</th>
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<tr>
<td>Veregen® royalties</td>
<td>€2.4 m</td>
<td>high single digit percentage increase</td>
<td>€2.5 m (+8%)</td>
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<tr>
<td>Veregen® total</td>
<td>€5.2 m</td>
<td>€3 – 4 m</td>
<td>€3.1 m</td>
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<td>revenue</td>
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<tr>
<td>R&amp;D expenses</td>
<td>€2.9 m</td>
<td>€6 - 7 m</td>
<td>€5.5 m</td>
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<tr>
<td>Immunotherapies</td>
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<tr>
<td>EBITDA loss</td>
<td>€2.1 m</td>
<td>€9 - 10 m</td>
<td>€9.5 m</td>
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- Slightly lower immunotherapy R&D costs than planned
  - Third party costs and personnel
- Increase in EBITDA loss as guided
Share price development +138% from 1.1.2015 - 31.12.2015

Market capitalisation increased from €52 m to €171 m

Shares issued increased from 13.9 m to 19.7 m
Current shareholder structure: capital measures added new institutional investors

Key share information
- Listed on the FSE (Prime Standard)
- Number of shares: 19.7 m
- Current market cap of approx. ~ €160 m

March 2016

Numbers based on last voting right notifications
*shareholding below 3%
Outlook 2016
Management aligned to Medigene’s transformation

Prof. Dolores J. Schendel
CEO and CSO

Dave Lemus
COO

Supported by three newly appointed Senior Vice Presidents

Dr. Dr. Olav Zilian as SVP Corporate Development

Dr. Kai Pinkernell as SVP /Chief Medical Officer

Dr. Markus Dangl as SVP Research & Pre-Clinical Development
## Financial guidance 2016 - Outlook

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<thead>
<tr>
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<th>2015</th>
<th>Guidance 2016</th>
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<tr>
<td>Total revenues</td>
<td>€6.8 m</td>
<td>Stable/increasing</td>
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<tr>
<td>Veregen® total revenue*</td>
<td>€3.1 m</td>
<td>€3 – 4 m</td>
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<tr>
<td>R&amp;D expenses</td>
<td>€5.5 m</td>
<td>€9 – 11 m</td>
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<tr>
<td>Immunotherapies</td>
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<tr>
<td>EBITDA loss</td>
<td>€9.5 m</td>
<td>€10 - 12 m</td>
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* assuming constant exchange rates
Medigene’s way forward in clinical trials

DCs:
- Continuation of Phase I treatment to completion of all patients at 50 weeks
- Sequential initiation of observation period for Phase I as patients complete treatment
- Progression to Phase II recruitment and treatment of DC vaccinated AML patients at Oslo University Hospital

TCRs:
- Pioneering first TCR trial in Germany as IIT at Charité Hospital Berlin in 2016
- Commence two Medigene-sponsored clinical trials in 2017 and 2018
- Isolate and further characterise novel TCRs for Medigene’s TCR library
clinical-stage immunotherapies
Questions & Answers