Turning innovation into patient benefit

Alan Hippe, CFO Roche

Sanford Bernstein Strategic Conference,
London, September 2016
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Performance update

Innovation and differentiation

Improving the standard of care

Outlook
Q2 2016: Sales growth for fifth consecutive year

All growth rates at Constant Exchange Rates (CER)
Continued leadership in innovation

Launches at historical high

5 NME launches in a year
Performance update

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Outlook
Roche strategy: Focused on medically differentiated therapies

Regulators: Optimised benefit / risk ratio

Payors: Optimised benefit / cost ratio
Approach towards innovation

*Rigorous prioritisation*...

*We select at late stage entry...*...

...to increase sales potential

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Illustrative

- **Medical need**
  - *low* ➔ *high*

- **Clinical differentiation**
  - *low* ➔ *high*

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**Threshold**

- *Continued*
- *Disqualified*

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**Greater differentiation**

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**Sales**

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**Time**
Approach towards innovation … and exploring broad

We invest more early stage…

<table>
<thead>
<tr>
<th>% of budget</th>
<th>Industry avg</th>
<th>Roche</th>
</tr>
</thead>
<tbody>
<tr>
<td>R &amp; Early D</td>
<td>46%</td>
<td>54%</td>
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<tr>
<td></td>
<td>40%</td>
<td>60%</td>
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…to increase options to choose from

<table>
<thead>
<tr>
<th># of NMEs entering Pre-clinical</th>
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<tr>
<td>Industry avg.</td>
</tr>
<tr>
<td>2012</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>2013</td>
</tr>
<tr>
<td>18</td>
</tr>
<tr>
<td>2014</td>
</tr>
<tr>
<td>19</td>
</tr>
</tbody>
</table>

External sources: Investment split based on the CMR Pharmaceutical R&D Factbook (data from 10 companies, 2014); Number of entries into Pre-clinical for Industry based on data from KMR, data for 2011-2013.
Performance update

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Outlook
2016 onwards: Significant launch activities

- **Venclexta**
  - R/R CLL with 17p del

- **Cotellic + Zelboraf**
  - BRAFmut melanoma

- **Alecensa**
  - 2L ALK+ NSCLC

- **Tecentriq**
  - 2L+ bladder cancer

- **Tecentriq**
  - 2/3L lung cancer

- **Gazyva**
  - R/R iNHL (GADOLIN)

- **OCREVUS**
  - RMS/PPMS

- **Emicizumab (ACE910)**
  - Hemophilia A

- **Lampalizumab**
  - Geographic atrophy

2016

- **Perjeta + Herceptin**
  - eBC HER2+ (APHINITY)

- **Gazyva**
  - 1L iNHL (GALLIUM)

- **Actemra**
  - Giant cell arteritis (GiACTA)

2017

- **Tecentriq+Avastin+chemo**
  - 1L NSCLC

- **Tecentriq + Avastin**
  - 1L RCC

- **Alecensa**
  - 1L ALK+ NSCLC

2018

Outcome studies are event-driven: timelines may change. Standard approval timelines of 1 year assumed.
2016 onwards: Significant launch activities

**2016**
- **Venclexta**
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**2018**
- **Tecentriq + Avastin + chemo**
  - 1L NSCLC
- **Lampalizumab**
  - Geographic atrophy
- **Alecensa**
  - 1L ALK+ NSCLC

Outcome studies are event-driven: timelines may change. Standard approval timelines of 1 year assumed.
Tecentriq clinical program in 2/3L NSCLC

**Breakthrough designation in PD-L1+ patients**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Phase</th>
<th>Primary end-point:</th>
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<tbody>
<tr>
<td>FIR</td>
<td>Phase II</td>
<td>Response Rates</td>
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<tr>
<td>PD-L1-selected mNSCLC n=138</td>
<td>Tecentriq 1200 mg IV Q3 weeks</td>
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<td>POPLAR</td>
<td>Phase II</td>
<td>Overall Survival</td>
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<td>All comers 2/3L mNSCLC n=287 PD-L1 stratified</td>
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<td>BIRCH</td>
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<td>PD-L1-selected mNSCLC n=667</td>
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<td>OAK</td>
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Note: Atezolizumab (Anti-PD-L1) is listed as MPDL3280A in clinicaltrials.gov

mNSCLC = metastatic Non Small-Cell Lung Cancer
A rich pipeline: We are investigating into multifold approaches across tumour phenotypes

* Dual roles in T eff activation and T reg inhibition suggest OX40 activity in both desert and inflamed phenotypes; IND=new investigational drug application; TBA=to be announced
Maximising value: Novel assets and combinations

Launched portfolio

Emactuzumab (aCSF-1R); cergutuzumab amunaleukin (aCEA-IL2v FP); vanucizumab (aAng2/VEGF); polatuzumab vedotin (aCD79b ADC); taselisib (PI3Ki); ipatasertib (AKTi); SERD (selective estrogen receptor degrader); idasanutlin (MDM2 antagonist); Venclexta in collaboration with AbbVie; Gazyva in collaboration with Biogen; Alecensa in collaboration with Chugai; Cotellic in collaboration with Exelixis; Zelboraf in collaboration with Plexxikon; polatuzumab in collaboration with Seattle Genetics; ipatasertib in collaboration with Array Biopharma; IDOi in collaboration with NewLink; daratumumab in collaboration with Janssen (J&J)

Immunotherapy portfolio

- cAEG/CD3 TCB
- aCD20/CD3 TCB
- aTIGIT
- aOX40
- IDOi
- vanucizumab

- Combination approved
- Chemo combination approved
- Combination in development
- Chemo combination in development

Status: June 2016
### 2016 onwards: Significant launch activities

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<th>Year</th>
<th>NMEs</th>
<th>Line Extensions</th>
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Ocrelizumab: Active in both RMS & PPMS

- Selective depletion of a B cell subset leaving the ability to generate new B cells intact
- Administered IV twice yearly

RMS=relapsing forms of multiple sclerosis (MS) which includes patients with RRMS and SPMS with superimposed relapses; RRMS=relapsing-remitting MS; SPMS=secondary progressive MS; PPMS=primary progressive MS;
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Outlook
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<td><strong>Group sales growth</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
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<td><strong>Core EPS growth</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
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<td><strong>Dividend outlook</strong></td>
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<sup>1</sup> At Constant Exchange Rates (CER)
Doing now what patients need next
Different tumours show different immune phenotypes and will need different solutions

**Inflamed**
- CD8+ T cells infiltrated, but non-functional
- Accelerate or remove brakes on T-cell response

**Immune Excluded**
- CD8+ T cells accumulated but not efficiently infiltrated
- Bring T-cells in contact with cancer cells

**Immune Desert**
- CD8+ T cells absent from tumour and periphery
- Increase number of antigen-specific T-cells or increase antigen presentation

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<th>Immune Excluded</th>
<th>Immune Desert</th>
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<td>TNBC</td>
<td>Gastric</td>
</tr>
<tr>
<td>Lung</td>
<td>Colorectal</td>
<td>Ovarian</td>
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TNBC: Triple Negative Breast Cancer