Innovation and growth

Bill Anderson
Head of Global Product Strategy and Chief Marketing Officer

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Performance update

Translating great science into drugs

Growth opportunities

Summary
Roche Group sales: Continued growth for 3yrs

All growth rates at Constant Exchange Rates (CER)
HY 2014: Increase in core operating profit & margin

CHFbn

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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<tbody>
<tr>
<td>HY 2010</td>
<td>9,16</td>
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<td>8,25</td>
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<td>8,64</td>
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<td>HY 2014</td>
<td>9,41</td>
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37.2% 38.1% 38.5% 40.7% 41.0%

+7% at CER

CER=Constant Exchange Rates
HY 2014: Operating free cash flow and margin further increased

<table>
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<tr>
<th></th>
<th>Roche Group</th>
<th>Pharma Division</th>
<th>Diagnostics Division</th>
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<td>7,869</td>
<td>7,424</td>
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<td></td>
<td>+11 %(^1)</td>
<td>+10 %(^1)</td>
<td>+3 %(^1)</td>
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<tr>
<td></td>
<td>(+6 %)</td>
<td>(+6 %)</td>
<td>(+6 %)</td>
</tr>
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</table>

\(^1\) CER=Constant Exchange Rates
Performance update

Translating great science into drugs

Growth opportunities

Summary
Roche strategy: Focused on medically differentiated therapies

**Regulators:**
Optimised benefit / risk ratio

**Payors:**
Optimised benefit / cost ratio
Science is continually evolving

Classification of lung adenocarcinomas

- KRAS 25%
- EGFR 17%
- ALK 8%
- HER2 3%
- MEK1 <1%
- NRAS 1%
- MET 1%
- PIK3CA 1%
- BRAF 1%
- HER2 3%
- EGFR (other) 4%
- Unknown 35%
- >1 mutated gene 3%
- No oncogenic driver detected 35%

2004

2014

Future

Translating excellence in research into actionable innovation

Publications in Cell, Nature & Science

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<td>17</td>
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Patented inventions

<table>
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<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>Pharma</td>
<td>279</td>
<td>291</td>
<td>248</td>
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<tr>
<td>Dia</td>
<td>175</td>
<td>170</td>
<td>198</td>
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</table>
Roche: Diversity of approaches

“Federation” of >150 partners

Autonomous centers

- Genentech R&ED*
- Roche R&ED*
- Roche Dx
- Chugai

Research Early Dev.

Worldwide execution

- Global Product Development
- Manufacturing
- Commercialization

Diversity

Scale, Reach, Speed
Roche: Tapping into external innovation…
Mostly technologies

Number of licensing deals
(Pharma / Diagnostics combined)

- Research collaborations / technologies
- Development compounds / products
Key is to set a high bar
Follow the science and focus on promising molecules

Major Oncology Drug Launches

Second-in class products

Breakthrough / Best in class

Market share*

0 0,2 0,4 0,6 0,8 1

0 1 2 3

Years post launch

Ziv-aflibercept
panitumumab
nab-paclitaxel
afatinib
lapatinib
ofatumumab

0 0,2 0,4 0,6 0,8 1

0 1 2 3

crizotinib
Zelboraf
abiraterone
Perjeta
ipilimumab
Kadcyla
enzalutamide

Source: Evaluate Pharma, Decision Resources, Roche internal analysis
* Market shares represent either % sales of target product relative to sales competing products in similar indications or patient shares
Performance update

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Summary
Roche: A pipeline of distinct products

### Oncology
- Avastin
- Rituxan/MabThera
- Herceptin
- Xeloda
- Tarceva
- Zelboraf
- Erivedge
- Perjeta
- Kadcyla
- Gazyva/Gazyvaro

### Immunology/Ophthalmology
- Esbriet
- Pulmozyme
- Xolair
- Actemra/RoActemra
- Lucentis
- Rituxan/MabThera RA

### Neuroscience
- lebrikizumab
- etrolizumab²
- lampalizumab³
- ocrelizumab
- gantenerumab

#### Phase III
- pictilisib¹
- taselisib¹
- anti-PDL1
- BCL2i
- cobimetinib
- alectinib

#### Phase II
- 8 phase II
- 1 phase II
- 7 phase II

¹ Phase III decision pending; ² FPI in 1H 2014; ³ FPI in 2H 2014

= Respiratory portfolio highlighted
Roche oncology: Continued sales growth

A portfolio of differentiated medicines

Sales at 2013 exchange rates
Roche in cancer immunotherapy: A comprehensive program in monotherapy and combination

<table>
<thead>
<tr>
<th>Compound</th>
<th>Combination</th>
<th>Indication</th>
<th>Ph 1</th>
<th>Ph 2</th>
<th>Ph 3</th>
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<tbody>
<tr>
<td>PDL1</td>
<td>Mono + Tarceva</td>
<td>Lung</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PDL1</td>
<td>Mono</td>
<td>Bladder</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>PDL1</td>
<td>Mono + Avastin</td>
<td>Renal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PDL1</td>
<td>+ Zelboraf</td>
<td>Melanoma</td>
<td>✓</td>
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<td></td>
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<tr>
<td>PDL1</td>
<td>Mono + Avastin + cobi</td>
<td>Solid tumors</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PDL1</td>
<td>+ Avastin + FOLFOX</td>
<td>Colorectal</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDL1</td>
<td>Mono + Gazyva</td>
<td>Hematology</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSF1R</td>
<td>Mono + PDL1 + CD40</td>
<td>Solid tumors</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CEA IL-2v</td>
<td>Mono</td>
<td>Solid tumors</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OX-40</td>
<td>Mono</td>
<td>Solid tumors</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD-40</td>
<td>Mono</td>
<td>Solid tumors</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNA vaccine</td>
<td>Mono</td>
<td>Prostate</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDO</td>
<td>Mono / combo</td>
<td>various</td>
<td>✓</td>
<td></td>
<td></td>
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</table>

- ✓ Study ongoing
- ✓ Study planned/imminent
Example: CD40 converts an aPD-L1 unresponsive tumor into an aPDL1 responsive tumor

Orthotopic (intrapancreatic) tumor growth inhibition of Panc02-luciferase
Urothelial bladder carcinoma (UBC)

High unmet need for patients with advanced disease

New therapies in RCC, prostate and bladder cancer

- US: 74,690 new cases diagnosed p.a.¹
- Metastatic UBC prognosis:
  - 5-year OS ~17% ², ³
- US: no therapies approved for patients who relapse on Pt-based chemo

Sources:
¹ Siegel R, CA Cancer J Clin 2014; 64:9-29
**Anti-PDL1 in bladder: Confirming strength in cancer immunotherapy**

<table>
<thead>
<tr>
<th>PD-L1 IHC (n)</th>
<th>ORR (95% CI)</th>
<th>Dx+ vs Dx- ORR (95% CI)</th>
<th>Median PFS (range), weeks</th>
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<tbody>
<tr>
<td>IHC 3 (n=10)</td>
<td>60% (27-85)</td>
<td>52% (34-69)</td>
<td>Not reached (5 to 48+)</td>
</tr>
<tr>
<td>IHC 2 (n=23)</td>
<td>48% (27-68)</td>
<td></td>
<td>24 (5 to 50+)</td>
</tr>
<tr>
<td>IHC 1 (n=24)</td>
<td>17% (6-37)</td>
<td>14% (6-28)</td>
<td>11 (0.1+ to 30+)</td>
</tr>
<tr>
<td>IHC 0 (n=12)</td>
<td>8% (0-35)</td>
<td></td>
<td>7 (5 to 24+)</td>
</tr>
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**Durability of response**

- 3 complete responses in PD-L1+
- Sustained durability: 19/22 responders continuing to respond
- Benign side effect profile
- Phase 3 trials planned

Anti-PDL1 is listed as MPDL3280A in clinicaltrials.gov. Diagnostic PD-L1-positive: IHC 2 (≥ 5% but < 10% ICs); IHC 3 (≥ 10%), PD-L1 negative: IHC 0 (< 1% of ICs) and IHC 1 (≥ 1% but < 5%).
Strategies beyond great individual molecules

Replace and extend

Replace

Extend

Medical value

MabThera

CLL11
GOYA
GALLIUM
GADOLIN

Gazyva

Chemo

MabThera

BCL-2i

ADCs

ADC 79b

Phase I/II DLBCL (G+Bcl-2)

Bcl-2 i. in collaboration with AbbVie (ABT 199)
Roche Hematology pipeline
Broad range of indications and approaches

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bcl-2 inh (GDC 199) + Gazyva</td>
<td>Bcl-2 inh (GDC 199)</td>
<td>Gazyva</td>
</tr>
<tr>
<td>CLL</td>
<td>CLL R/R 17p del</td>
<td>DLBCL</td>
</tr>
<tr>
<td>Bcl-2 inh (GDC 199)</td>
<td>Erivedge</td>
<td>Gazyva</td>
</tr>
<tr>
<td>NHL</td>
<td>AML</td>
<td>iNHL relapsed</td>
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<tr>
<td>Bcl-2 inh (GDC 199)</td>
<td>polatuzumab ved. (CD 79b)</td>
<td>Gazyva</td>
</tr>
<tr>
<td>AML</td>
<td>NHL</td>
<td>iNHL front-line</td>
</tr>
<tr>
<td>Bcl-2 inh (GDC 199)</td>
<td>pinatuzumab ved. (CD22)</td>
<td>Bcl-2 inh. (GDC 199)</td>
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<tr>
<td>Multiple myeloma</td>
<td></td>
<td>CLL R/R</td>
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<tr>
<td>LSD1 inh (RG6016)</td>
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<td>Gazyva + GDC-0199</td>
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<tr>
<td>AML</td>
<td></td>
<td>Heme tumours</td>
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<tr>
<td>MDM2 (RG738)</td>
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<td></td>
</tr>
<tr>
<td>AML</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADC (RG7598)</td>
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<tr>
<td>multiple myeloma</td>
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<td></td>
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<tr>
<td>ChK1 inh (RG7741)</td>
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<tr>
<td>lymphoma</td>
<td></td>
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<td>RG 7845</td>
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<tr>
<td>heme tumors</td>
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<td></td>
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<tr>
<td>Gazyva/ PDL1 (MPDL3280A)</td>
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<td></td>
</tr>
<tr>
<td>heme tumors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Approval**

- Gazyvaro/ Gazyva
  - CLL
Lampalizumab

High medical need - Geographic Atrophy (GA)

AMD (Drusen) → Extrafoveal GA → Advanced GA
Lampalizumab: Anti-factor D

High efficacy in subpopulation with exploratory biomarker

- GA progression rate decreased by 44% at 18 months.
- In the subset of patients with better vision (20/50 to 20/100), progression was reduced by 54%.
- All comers: 20.4% reduction rate at 18 months.

Safety

- No unexpected or unmanageable SAEs.
- Intraocular inflammation AE rates and intraocular pressure elevation AE rates were consistent with Lucentis rates in wAMD.
**Esbriet® in the US**

**IPF: Rate of disease progression**

- **Progressive fibrotic disease (slow decline)**
- **Rapid decline**
- **Episodes of acute respiratory worsening**

*Adapted from Raghu, 1987*

**Median survival following diagnosis (years)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Respiratory function / symptoms</td>
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**Actions taken**

**US: Change the market from ‘watch and wait’ to early diagnosis and treatment**

- Field force trained and in place, logistics ready
- Engagement with pulmonologists from existing Xolair franchise
- Highlight efficacy and safety profile from day one

**Ex-US: initiatives to reflect latest clinical data in label**

- Roche to support ongoing efforts

1 Roman et al 2013; 2 Raghu et al 2011; 3 Nalysnyk et al 2012
Performance update

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Summary
Planned data presentations in H2 2014

**Alecensa (alectinib)**¹
- Japan Phase 1/2 update

**Avastin Lung**
- BEYOND study

**Gazyva**
- GREEN study G + various backbones

**ACE910**¹
- Hemophilia

**Chicago, 30 Oct -1 Nov**

**ASH**
- San Francisco, 6-9 Dec

**San Antonio, 9-13 Dec**

**PDL1 (MMPDL3280A)**
- Triple negative breast cancer

¹ In collaboration with Chugai
## 2014 Outlook

<table>
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<tr>
<th>Description</th>
<th>Forecast</th>
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<tr>
<td><strong>Group sales growth&lt;sup&gt;1&lt;/sup&gt;</strong></td>
<td>Low- to mid-single digit</td>
</tr>
<tr>
<td><strong>Core EPS growth&lt;sup&gt;1&lt;/sup&gt;</strong></td>
<td>Ahead of sales growth</td>
</tr>
<tr>
<td><strong>Dividend outlook</strong></td>
<td>Further increase dividend</td>
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<sup>1</sup>At constant exchange rates
Doing now what patients need next
...and vast majority ‘bolt on’ acquisitions

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<td>NimbleGen</td>
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<td>2008</td>
<td>5.0</td>
<td>BioVeris</td>
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<td>2009</td>
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<td>454 Life Sciences</td>
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<td>2010</td>
<td>2</td>
<td>Ventana</td>
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<td>2011</td>
<td>1.0</td>
<td>BioMicro</td>
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<td>Mariposa Bioscience</td>
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<td>Quotient Sciences</td>
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<th>Year</th>
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<td>2013</td>
<td>&lt;1.0</td>
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<tr>
<td>2014 YTD</td>
<td>&lt;1.0</td>
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1 from 50.01% to 59.9%; based on closing dates (as opposed to announcement dates)

2 Upfront payments only; does not incl. potential milestone payments