Innovation and Sustainability: An industry perspective

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Fair Impact into Responsible Investment Corporate Access
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6. increased government pricing pressures;
7. interruptions in production;
8. loss of or inability to obtain adequate protection for intellectual property rights;
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Challenges and our strategy

Innovation + Sustainability

Access to healthcare

Growth platforms

Summary
Industry challenges

Sustainable pricing, R&D productivity and Biosimilars - key business issues

- Future of Healthcare & social systems, Drug Prices, Differential Pricing
  - Straining budgets (reimbursement)

- Corporate governance
  - Board performance, remuneration

- Patient safety
  - Clinical trial disclosure, Adverse events

- Policy Changes
  - Transparency lobbying, Political influence

- Marketing Practices
  - Payments to HCPs, Fines

- R&D productivity
  - Rising R&D costs
  - Weak pipelines
  - Neglected diseases (opportunities)

- Biosimilars
  - When will they arrive and how much will they take

- Employees
  - Retention/Attraction of talent, diversity, human rights
Roche strategy: Focused on medically differentiated therapies

Regulators:
Optimised benefit / risk ratio

Payors:
Optimised benefit / cost ratio
Personalised Healthcare - benefit for all stakeholders, including the industry

Today

- Reduced Patient pool
- Higher probability of success

Benefit from patient stratification

- Lower development costs
- Time to market
- Pricing power
- Increased market share

Future
R&D productivity differs substantially among players

Average annual NME peak sales (2001-10)¹
US$ bn

$ 710 m Peak Sales
(per $1 bn R&D)

4 x

Average annual R&D investment (1997-2006)¹
US$ bn

$ 165 m Peak Sales
(per $1 bn R&D)

¹ Peak sales and R&D calculated pro forma to account for major M&A
Source: EvaluatePharma; BCG analysis; Roche analysis
Roche: R&D well balanced from a risk & disease point of view

Industry average probability of success – Phase 0 to Registration

Source: Bernstein Equity Research, Tufts University and Roche analysis
R&D spend: Balance between short and long term

R&D spend by phase

Invest for the future

~50%

Invest for the near term

~50%

Note: Based on 2012 budget
Implications of R&D productivity challenge

Segregation will continue as only true innovation will be rewarded

<table>
<thead>
<tr>
<th>Willingness to pay for added value</th>
<th>Medical differentiation</th>
</tr>
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<tbody>
<tr>
<td>low</td>
<td>low</td>
</tr>
<tr>
<td>high</td>
<td>high</td>
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</table>

- Generics
- 'Me-too' players
- True innovators

High differentiation

No / limited differentiation
Challenges and our strategy

**Innovation + Sustainability**

Access to healthcare

Growth platforms

Summary
Innovation + Sustainability
Managing the business to create long-term value

Core Business
- R&D (innovation capacities)
- Product quality & Patient safety
- Access (reimbursement, value)

Social Responsibility
- Donations and philanthropy
- Community involvement

Employee Responsibility
- Responsible and attractive employer

Responsible Practices
- Corporate Governance
- Customer relationship management

Environmental Responsibility
- Environmental management
## Innovation + Sustainability = Remuneration

*Integrated into 5-yr Corporate Goals*

### Business Results

<table>
<thead>
<tr>
<th>Goal End 2014</th>
<th>Status</th>
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<tbody>
<tr>
<td>Group</td>
<td></td>
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<tr>
<td>Pharma</td>
<td></td>
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<tr>
<td>Diagnostics</td>
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</table>

### Helping patients through excellent science

<table>
<thead>
<tr>
<th>Goal End 2014</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late stage assets / Transitions</td>
<td></td>
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<tr>
<td>Personalized Healthcare</td>
<td></td>
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### Great Place to Work

<table>
<thead>
<tr>
<th>Goal End 2014</th>
<th>Status</th>
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<tbody>
<tr>
<td>Employees</td>
<td></td>
</tr>
<tr>
<td>- GEOS</td>
<td></td>
</tr>
<tr>
<td>- % female leaders</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>External ratings / Indexes</td>
<td></td>
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</table>
Group risk map: continuous review

BUT: what you don’t know, you don’t know

<table>
<thead>
<tr>
<th>Material Risk</th>
<th>Impact</th>
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<tbody>
<tr>
<td>1</td>
<td>Very High</td>
</tr>
<tr>
<td>2</td>
<td>Very High</td>
</tr>
<tr>
<td>3</td>
<td>Very High</td>
</tr>
<tr>
<td>4</td>
<td>Medium High</td>
</tr>
<tr>
<td>5</td>
<td>Medium High</td>
</tr>
<tr>
<td>6</td>
<td>Medium High</td>
</tr>
</tbody>
</table>

Material risks:
- Very High Risk
- High Risk
- Medium Risk
- Low Risk

Impact levels:
- V. High
- Very High
- Time/Compliance
- Time/Reputation
- Medium High
- Reputation
Challenges and our strategy

Innovation + Sustainability

Access to healthcare

Growth platforms

Summary
Access to healthcare is a global challenge
Requires new solutions to help increase access to quality healthcare

Regulators
*Higher hurdles for approval*
- Efficacy (clinical endpoints)
- Safety (‘zero’ tolerance)

Payors
*Clear evidence of value*
- Funding capacity (innovation)
- Real world effectiveness (‘health outcomes’)

Healthcare professionals
*Health management complexity*
- Personalised healthcare (diagnostics)
- Combination therapies (treatment algorithms)

Patients
*Increasing role in their health*
- Technology (social media, patient forums)
- Behavioural change (prevention, adherence)
Roche strategy: Tailor made access options for high value products

Established Markets

Emerging Markets

Value based pricing

Differential pricing

Universal access and coverage
- Negotiate prices for new medicines

Limited patient access
- Enable access to public funding
Helping improve healthcare coverage

Toolkit of options to address affordability

Options

- Public Reimbursement
- Private Insurance
- Private Payment

Details

- \textbf{Commercial Arrangements}
  - Price/volume
  - Treatment cost capping
  - Risk sharing

- \textbf{Differential offerings / pricing}

- \textbf{Local packaging}

- \textbf{Patient Assistance}
  - Financial assistance co-pay
  - Free product
  - Treatment cost capping

- \textbf{Commercial Arrangements}

- \textbf{Differential offerings}
  - Volume discount etc.
  - Emerging/developing markets

- \textbf{Local packaging}
  - Contract manufacturing

- \textbf{Private Insurance}
  - Collaborate local insurance companies to develop policies

1. Public Reimbursement: Statutory Health Insurance, Sick Funds, Primary Care Trust, Ministry of Health, Military institutions, etc.
2. Private Insurance: Voluntary health insurance, Employer insurance
3. Private Payment: Out-of-Pocket, Co-Payments
Europe: Capping programs for Avastin treatment
Colorectal, breast and ovarian cancer

Addresses challenges with dosages across indications, weight and duration of treatment
China: Patient assistance program for Herceptin
Improving awareness, testing, treatment & access

**Challenges:**

- Limited access to Herceptin in public sector
- Low affordability in out-of-pocket market

**Roche’s approach:**

- Address affordability: Patient assistance program (PAP) with the Cancer Foundation of China (CFC)
- Patient pays for first 6 treatment cycles, Roche provides next 8 cycles through CFC

**Results:**

Before program <15% of women received Herceptin

Since PAP (Aug 2011) the number of women receiving Herceptin doubled
Challenges and our strategy

Innovation + Sustainability

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Summary
Roche oncology
A portfolio of distinctive drugs

Note: Sales at 2011 FX rates
Roche oncology: one approval in 1 tumor type to 9 medicines in 14 tumor types

Kadcyla
- HER 2+ BC
- HER 2-positive BC

Perjeta
- HER 2-positive BC
- Basal Cell Carcinoma

Erivedge
- Melanoma

Tarceva
- Lung cancer
- Pancreatic cancer

Avastin
- Ovarian
- Renal cancer
- Recurrent glioblastoma
- Metastatic breast cancer
- Lung cancer
- Metastatic colorectal cancer

Xeloda
- Gastric cancer
- Colon cancer
- Colorectal cancer
- Breast cancer

Herceptin
- HER2-positive gastric cancer
- Early HER2-positive breast cancer
- HER2-positive metastatic breast cancer

MabTheraRituxan
- CLL
- Aggressive NHL
- Indolent NHL

1997 2005 2013
Emerging markets remain strong

All growth YoY at CER=Constant Exchange Rates
Increasing polarisation in emerging markets
Growth in patented medicines and unbranded generics

Example: Brazil market showing evidence of polarisation

Share expected to grow further

Source: IMS
Challenges and our strategy

Innovation + Sustainability

Access to healthcare

Growth platforms

Summary
Q1 2013: Pipeline milestones

**Ph III NMEs**

- Aleglitazar: metabolic diseases
- Lebrikizumab: asthma
- Gantenerumab: Alzheimer's
- Ocrelizumab: MS
- Bitopertin: schizophrenia
- MEKi: melanoma
- Onartuzumab (MetMAb): NSCLC
- Obinutuzumab (GA101): CLL
- Kadcyla: HER2+ BC

**Late stage enabling data expected in 2013**

- Anti-PD-L1: solid tumours
- Anti-EGFL7: solid tumours
- EGFR ADCC MAb (GA201): solid tumours
- PI3 kinase: solid tumours
- Dual PI3 kinase/mTOR: solid tumours
- HCV combo: HepC
- Etrolizumab: ulcerative colitis
- Anti-factor D: geographic atrophy
- Anti-PCSK9: metabolic diseases
- Inclucumab (P selectin): ACS/CVD
- MGlur2 antagonist: treatment-resistant depression
- MGlur5 antagonist: treatment-resistant depression
- Crenezumab: Alzheimer's

**2013 R&D to remain stable**

*Data presentation planned/presented

1Phase II/III label enabling
# Summary: Focus on sustainable strategy through innovation and growth

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<tbody>
<tr>
<td>1</td>
<td>Strategic focus on innovation and driving Personalised Healthcare</td>
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<tr>
<td>2</td>
<td>Strong growth in US and Emerging Markets; innovative access models</td>
</tr>
<tr>
<td>3</td>
<td>Leading product pipeline providing value for the future</td>
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Doing now what patients need next
Q1’ 13: US and Emerging markets driving sales growth

<table>
<thead>
<tr>
<th>Pharma</th>
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<tr>
<td>Asia</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Latin America</td>
<td>4%</td>
<td></td>
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<tr>
<td>EEMEA</td>
<td></td>
<td>11%</td>
</tr>
<tr>
<td>US</td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>Japan</td>
<td>2%</td>
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</tr>
<tr>
<td>Europe</td>
<td>1%</td>
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<table>
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<tr>
<th>Diagnostics</th>
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<tbody>
<tr>
<td>Asia-Pacific</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>North America</td>
<td>-4%</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>-2%</td>
<td></td>
</tr>
<tr>
<td>EMEA</td>
<td></td>
<td>1%</td>
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</tbody>
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All growth rates at CER=Constant Exchange Rates; EEMEA=Eastern Europe, Middle East, Africa; EMEA=Europe, Middle East and Africa