Committed to innovation and growth

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2. legislative and regulatory developments and economic conditions;
3. delay or inability in obtaining regulatory approvals or bringing products to market;
4. fluctuations in currency exchange rates and general financial market conditions;
5. uncertainties in the discovery, development or marketing of new products or new uses of existing products, including without limitation negative results of clinical trials or research projects, unexpected side-effects of pipeline or marketed products;
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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Update on 2013

Strategy, R&D productivity and allocation of resources

Oncology: ASCO 2013

Summary
Q1 2013: Strong start to the year

<table>
<thead>
<tr>
<th>Division</th>
<th>2013 CHF bn</th>
<th>2012 CHF bn</th>
<th>Change in %</th>
<th>CER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceuticals Division</td>
<td>9.2</td>
<td>8.6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Diagnostics Division</td>
<td>2.4</td>
<td>2.4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Roche Group</td>
<td>11.6</td>
<td>11.0</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

CER = Constant Exchange Rates
Q1’ 13: US and Emerging markets driving sales growth

<table>
<thead>
<tr>
<th>Pharma</th>
<th>Diagnostics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>Asia-Pacific</td>
</tr>
<tr>
<td>Latin America</td>
<td>Latin America</td>
</tr>
<tr>
<td>EEMEA</td>
<td>North America</td>
</tr>
<tr>
<td>US</td>
<td>Japan</td>
</tr>
<tr>
<td>Japan</td>
<td>EMEA</td>
</tr>
</tbody>
</table>

All growth rates at CER=Constant Exchange Rates; EEMEA=Eastern Europe, Middle East, Africa; EMEA=Europe, Middle East and Africa
Update on 2013

**Strategy, R&D productivity and allocation of resources**

**Oncology: ASCO 2013**

**Summary**
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

Future

- Pricing power
- Increased market share
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
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

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

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

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

Invest for the near term

Note: Based on 2012 budget
Continued focus on external innovation
Roche Partnering

150 existing partnerships

~ 35% of total R&D pipeline compounds (phase 1-3) are from external origin

~ 37% of total Pharma sales (2012) are from partnered compounds
Implications of R&D productivity challenge

Segregation will continue as only true innovation will be rewarded

- High differentiation
- True innovators
- Generics
- ‘Me-too’ players ??
- No / limited differentiation

Willingness to pay for added value

Roche
Update on 2013

Strategy, R&D productivity and allocation of resources

Oncology: ASCO 2013

Summary
Roche oncology: one approval in 1 tumor type to 9 medicines in 14 tumor types

- **Kadcyla**: HER 2+ BC
- **Perjeta**: HER 2-positive BC
- **Erivedge**: Basal Cell Carcinoma
- **Zelboraf**: Melanoma
- **Tarceva**: Pancreatic cancer, Lung cancer
- **Avastin**: Ovarian, Renal cancer, Recurrent glioblastoma, Metastatic breast cancer, Lung cancer, Metastatic colorectal cancer
- **Xeloda**: Colon cancer, Colorectal cancer, Breast cancer
- **Herceptin**: HER2-positive gastric cancer, Early HER2-positive breast cancer, HER2-positive metastatic breast cancer
- **MabThera/Rituxan**: CLL, Aggressive NHL, Indolent NHL

Timeline:
- 1997
- 2005
- 2013
## Best-in-class oncology pipeline

### 39 NMEs and 32 AIs supporting long-term growth

### Phase I (26 NMEs)
- **MDM2 ant** solid & hem tumors
- **HER3 MAb** solid tumors
- **CSF-1R MAb** solid tumors
- **MEK inh** solid tumors
- **Tweak MAb** oncology
- **Ang2-VEGF MAb** oncology
- **Raf & MEK dual inh** solid tumors
- **CD44 MAb** solid tumors
- **MDM2 ant** solid & hem tumors
- **MEK inh** solid tumors
- **AKT inhibitor** solid tumors
- **PD-L1 MAb** solid tumors
- **Steap 1 ADC** prostate ca.
- **ADC** ovarian ca.
- **ADC** multiple myeloma
- **ADC** oncology
- **ADC** oncology
- **Bcl-2 inh** CLL and NHL
- **ChK1 inh** solid tum & lymphoma
- **PitK inh** solid tumors
- **ADC** metastatic melanoma
- **PitK inh** glioblastoma 2L
- **ChK1 inh(2)** solid tumors
- **ALK inhibitor** NSCLC
- **PitK inh** solid tumors
- **WT-1 peptide** cancer vaccine

### Phase II (8 NMEs+ 11 AIs)
- **Perjeta** BC neoadjuvant
- **Perjeta** HER2+ mBC 2nd line
- **Perjeta** HER2+ gastric cancer
- **Kadcyla (T-DM1)** HER2+ gastric cancer
- **Erivedge** operable BCC
- **onartuzumab** triple-neg mBC, 1st/2nd line
- **onartuzumab** mCRC 1st line
- **onartuzumab** NSCLC non squamous 1st line
- **onartuzumab** NSCLC squamous 1st line
- **onartuzumab** glioblastoma 2nd line
- **Zelboraf** papillary thyroid cancer
- **imagatuzumab (GA201)** solid tumors
- **pictilisib (PitK inh)** solid tumors
- **parsatuzumab (EGFL7 Mab)** solid tumors
- **CD22 ADC** hem tumors
- **CD79b ADC** hem tumors
- **HER3/EGFR** m. epithelial tumors
- **glypican-3 MAb** liver cancer

### Phase III (3 NMEs+17 AIs)
- **Avastin** HER2+ BC adj
- **Avastin** HER2-neg. BC adj
- **Avastin** NSCLC adj
- **Avastin** high risk carcinoid
- **Avastin** ovarian cancer 1st line
- **Avastin** rel. ovarian ca. Pt-resistant
- **Avastin** rel. ovarian ca. Pt-sensitive
- **Perjeta** HER2+ early BC
- **Tarceva** NSCLC adj
- **Kadcyla (T-DM1)** HER2+ mBC 3rd line
- **Kadcyla (T-DM1)** HER2+ mBC 1st line
- **Kadcyla (T-DM1)** HER2+ early BC
- **onartuzumab** gastric cancer
- **obinutuzumab** iNHL relapsed
- **obinutuzumab** DLBCL
- **obinutuzumab** iNHL front-line
- **Zelboraf** m. melanoma adj
- **onartuzumab** NSCLC 2nd/3rd line
- **Avastin** high risk carcinoid
- **Kadcyla (T-DM1)** HER2+ early BC
- **Erivedge** advanced BCC

### Registration (2 NMEs+4 AIs)
- **MabThera** NHL sc formulation
- **Avastin** glioblastoma 1st line
- **Herceptin** HER2+ BC sc form
- **Tarceva** NSCLC EGFR mut 1st line
- **Kadcyla (T-DM1)** HER2+ pretr. mBC
- **Erivedge** advanced BCC

1. US only: ongoing evaluation for FDA submission
2. Submitted in EU
3. Approved in US, submitted in EU
4. Approved in EU, submitted in US

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Status as of March 31, 2013
R&D cycle: Translating learnings from the clinic into preclinical research

**Learn in the lab:** Learn in the clinic: *Bedside to bench*
Improving cancer treatment with combinations of 29 internal combinations with 18 compounds in over 9 tumor types, and increasing...  

### Solid tumors

#### Breast cancer
- **Perjeta**
  - Herceptin
  - Onartuzumab
  - Anti-EGFL7
  - Pictilisib (PI3Ki)
- **Kadcyla**
  - Perjeta
  - Avastin
  - Anti-EGFL7
  - Pictilisib (PI3Ki)

#### Colon cancer
- **Onartuzumab**
  - Avastin
  - Anti-EGFL7
  - Anti-PDL1
- **Pictilisib (PI3Ki)**
  - Kadcyla
  - Avastin
  - Anti-PDL1

#### Lung cancer
- **Onartuzumab**
  - Tarceva
  - Avastin
  - Anti-EGFL7
  - Pictilisib (PI3Ki)
- **Pictilisib (PI3Ki)**
  - Avastin
  - Anti-HER3 MAb

#### Gastric, brain, kidney and others
- **Perjeta**
  - Herceptin
  - Onartuzumab
  - Anti-EGFL7
- **Cobimetinib**
  - Zelboraf
  - Anti-PDL1

### Hematological tumors

#### Lymphoma
- **Anti-CD22 ADC**
  - Rituxan
  - Onartuzumab
  - Anti-CD79b ADC
  - Rituxan
  - Bcl2 inh
  - Rituxan (+B)

#### Leukemia
- **Bcl2 inh**
  - GA101
  - Bcl2 inh
  - Rituxan
  - Bcl2 inh
  - Rituxan (+B)

Yes, studies read out/filed/approved
Strategies beyond great medicines
HER2 franchise

Replace

Extend

Replace and extend

Herceptin + chemo
Lapatinib + chemo
Kadcyla
Perjeta
Kadcyla
Perjeta

EMILIA / MARIANNE
CLEOPATRA
MARIANNE

Medical value
Changing the standard of care in HER2
Securing future growth by improving the standard of care

<table>
<thead>
<tr>
<th>2nd line mBC</th>
<th>1st line mBC</th>
<th>Adjuvant BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xeloda + lapatinib</td>
<td>Herceptin &amp; Perjeta + chemo (CLEOPATRA)</td>
<td>Herceptin subcutaneous + chemo (HannaH)</td>
</tr>
<tr>
<td>T-DM1 (EMILIA)</td>
<td>T-DM1 &amp; Perjeta (MARIANNE)</td>
<td>Herceptin &amp; Perjeta + chemo (APHINITY)</td>
</tr>
<tr>
<td>2011</td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td>2014</td>
<td>2015</td>
<td>2016</td>
</tr>
<tr>
<td>Established standard of care</td>
<td>Potential new standard of care</td>
<td>Potential future standard of care</td>
</tr>
</tbody>
</table>

Biosimilars launch (EU)

Filing timelines
Changing the standard of care in hematology
Different mechanisms of action

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td><strong>MabThera</strong></td>
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<tr>
<td><strong>Rituxan</strong></td>
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<tr>
<td><strong>GA 101</strong></td>
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<td><strong>Bcl-2</strong></td>
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</tr>
<tr>
<td><strong>Anti-CD22 ADC</strong></td>
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<tr>
<td><strong>or</strong></td>
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<tr>
<td><strong>Anti-CD79b ADC</strong></td>
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</tr>
</tbody>
</table>

* Patent expiry in the US: 2018

* Filed in Q2 2013 and received breakthrough designation by FDA

* Patent expiry in the US: 2018

* Patent expiry in the US: 2018
Strategies beyond great medicines

Hematology

Replace

- MabThera
- CLL11 etc.

Extend

- ADCs
- ADC 22
- ADC 79b

Our vision

- BCL2
- ADCs
- ADC 22
- ADC 79b

Medical value

GA101

Chemo

Romulus

GA101

Replace and extend
GA101 in CLL: Investigator-assessed PFS (months)

- Type 1 error controlled through closed test procedure; p-value of the global test was <.0001.
- * In the G-Clb arm < 10% of patients had reached the median at cutoff; therefore, in contrast to the Clb arm
  - the G-Clb median PFS could not be reliably estimated due to the few patients at risk at time of G-Clb median.
- Independent Review Committee (IRC) - assessed PFS was consistent with investigator-assessed PFS

CI = confidence interval; HR = hazard ratio.
GA101 in NHL: Phase III development

**GADOLIN study**

Rituximab-refractory iNHL (n=360)

- Induction:
  - GA101 + bendamustine x 6 cycles
  - Bendamustine x 6 cycles
- Maintenance:
  - GA101 q2mo x 2 years
  - CR, PR, SD

Primary end-point: PFS
Expect data: 2015

**GOYA study**

Previously untreated DLBCL (n=1,400)

- Induction:
  - GA101 x 8 cycles + CHOP x 6 or 8
  - MabThera x 8 cycles + CHOP x 6 or 8
- Maintenance:
  - GA101 x 8 cycles + CHOP x 6 or 8
  - MabThera x 8 cycles + CHOP x 6 or 8

Primary end-point: PFS
Expect data: 2015

**GALLIUM study**

First-line iNHL (n=1,400)

- Induction:
  - GA101 x 8 cycles + CHOP x 6 or 8
  - GA101 x 8 cycles + CVP x 8 or 8
  - GA101 x 6 cycles + benda. x 6
  - MabThera x 8 cycles + CHOP x 6 or 8
  - MabThera x 8 cycles + CVP x 8 or 8
  - MabThera x 6 cycles + benda. x 6
- Maintenance:
  - GA101 q2mo x 2 years
  - CR, PR
  - MabThera q2mo x 2 years

Primary end-point: PFS
Expect data: 2017
Tumor PD-L1 enables cancer immune evasion

Anti-PDL1 inhibits binding of PD-L1 to PD-1 and B7.1

Targeting PD-L1

Targeting PD-1
Selecting the patients most likely to benefit
Companion diagnostics

Anti-PDL1 immunohistochemistry

( proprietary Genentech/Roche PD-L1 IHC)

PD-L1
cancer cell

Companion diagnostics factors

• Highly sensitive and specific anti-PDL1 antibody used for IHC
• PD-L1 expression on tumor cells
• PD-L1 expression on tumor infiltrating immune cells
• Appropriate diagnostic cut-off
• Prospective evaluation of diagnostic
### Anti-PDL1: Phase I data in solid tumors

#### Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Response rates&lt;sup&gt;1&lt;/sup&gt;</th>
<th>All comers&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Dx-positive&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Phase I experience</strong></td>
<td>21% (29/140)</td>
<td>36% (13/36)</td>
<td></td>
</tr>
<tr>
<td><strong>Metastatic NSCLC</strong></td>
<td>22% (9/41)</td>
<td>80% (4/5)</td>
<td></td>
</tr>
<tr>
<td><strong>Metastatic Melanoma</strong></td>
<td>29% (11/38)</td>
<td>27% (4/15)</td>
<td></td>
</tr>
<tr>
<td><strong>Metastatic RCC</strong></td>
<td>13% (6/47)</td>
<td>20% (2/10)</td>
<td></td>
</tr>
</tbody>
</table>

26 of 29 responders continued to respond at last assessment (time on study of 3 to over 15 months)

#### Safety

<table>
<thead>
<tr>
<th>Grade 3/4 adverse events</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Grade 3/4 Events</td>
<td>43% (73/171)</td>
</tr>
<tr>
<td>Hyperglycemia</td>
<td>5% (9/171)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>4% (7/171)</td>
</tr>
<tr>
<td>Increased ALT</td>
<td>3% (5/171)</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>3% (5/171)</td>
</tr>
<tr>
<td>Hypoxia</td>
<td>3% (5/171)</td>
</tr>
</tbody>
</table>

- No grade 3-5 pneumonitis observed
- Immune-related Grade 3-4 AEs observed in 4 patients (2%)
- Treatment-related Grade 3-4 AEs in 22 patients (13%)

---

<sup>1</sup> Efficacy evaluable subjects first dosed at 1-20 mg/kg prior to Aug 1, 2012; data cutoff Feb 1, 2013; ORR includes unconfirmed PR/CR and confirmed PR/CR by RECIST 1.1

<sup>2</sup> All patients include PD-L1-positive, PD-L1-negative and patients with unknown tumor PD-L1 status; 3 Diagnostic positivity based on Roche PD-L1 IHC
Anti-PDL1: Disease control rate

**Phase I**

### Overall disease control rate

<table>
<thead>
<tr>
<th>Patients, %</th>
<th>PD-L1 positive</th>
<th>PD-L1 negative</th>
<th>All comers</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>33</td>
<td>28</td>
<td>41</td>
</tr>
</tbody>
</table>

**Disease control rate by tumor type**

<table>
<thead>
<tr>
<th>Disease Control Rate (ORR¹ + SD)</th>
<th>All comers¹</th>
<th>Dx-positive²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Phase I experience</td>
<td>61% (86/140)</td>
<td>86% (31/36)</td>
</tr>
<tr>
<td>Metastatic NSCLC</td>
<td>54% (22/41)</td>
<td>100% (5/5)</td>
</tr>
<tr>
<td>Metastatic Melanoma</td>
<td>58% (22/38)</td>
<td>87% (13/15)</td>
</tr>
<tr>
<td>Metastatic RCC</td>
<td>72% (34/47)</td>
<td>80% (8/10)</td>
</tr>
</tbody>
</table>

### Best response:
- Complete response
- Partial response
- Stable disease

¹ All patients include PD-L1-positive, PD-L1-negative and patients with unknown tumor PD-L1 status; ² Diagnostic positivity based on Roche PD-L1 IHC
Anti-PDL1: Salvage of BRAF-mutant metastatic melanoma patient after progression on Zelboraf

Baseline

Week 6

Week 12

Week 18

31% increase in target lesions (RECIST PD)

Post-Resection

**Dx:** Nov 2010 (cutaneous melanoma)

**Prior treatment:** cisplatin, vemurafenib

Images include data from after Feb 1, 2013

Dana Farber Cancer Institute (Ibrahim/Hodi).
Update on 2013

Strategy, R&D productivity and allocation of resources

Oncology: ASCO 2013

Summary
Q1 2013: Pipeline milestones

<table>
<thead>
<tr>
<th>Ph III NMEs</th>
<th>Late stage enabling data expected in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>aleglitazar</td>
<td>Metabolic diseases</td>
</tr>
<tr>
<td>lebrikizumab</td>
<td>Asthma</td>
</tr>
<tr>
<td>gantenerumab¹</td>
<td>Alzheimer’s</td>
</tr>
<tr>
<td>ocrelizumab</td>
<td>MS</td>
</tr>
<tr>
<td>bitopertin</td>
<td>Schizophrenia</td>
</tr>
<tr>
<td>MEKi</td>
<td>Melanoma</td>
</tr>
<tr>
<td>onartuzumab (MetMAb)</td>
<td>NSCLC</td>
</tr>
<tr>
<td>obinutuzumab (GA101)</td>
<td>CLL</td>
</tr>
<tr>
<td>Kadycla</td>
<td>HER2+ BC</td>
</tr>
<tr>
<td>Anti-PD-L1*</td>
<td>Solid tumours</td>
</tr>
<tr>
<td>Anti-EGFL7</td>
<td>Solid tumours</td>
</tr>
<tr>
<td>EGFR ADCC MAb (GA201)</td>
<td>Solid tumours</td>
</tr>
<tr>
<td>PI3 kinase</td>
<td>Solid tumours</td>
</tr>
<tr>
<td>dual PI3 kinase/mTOR</td>
<td>Solid tumours</td>
</tr>
<tr>
<td>mGluR2 antagonist</td>
<td>Treatment-resistant depression</td>
</tr>
<tr>
<td>mGluR5 antagonist</td>
<td>Treatment-resistant depression</td>
</tr>
<tr>
<td>crenezumab</td>
<td>Alzheimer’s</td>
</tr>
<tr>
<td>inclacumab (P selectin)*</td>
<td>ACS/CVD</td>
</tr>
<tr>
<td>HCV combo</td>
<td>HepC</td>
</tr>
<tr>
<td>etrolizumab</td>
<td>Ulcerative colitis</td>
</tr>
<tr>
<td>Anti-factor D</td>
<td>Geographic atrophy</td>
</tr>
<tr>
<td>Anti-PCSK9</td>
<td>Metabolic diseases</td>
</tr>
</tbody>
</table>

*Data presentation planned/presented
¹Phase II/III label enabling

2013 R&D to remain stable
NME submissions and their additional indications

Projects currently in phase 2 and 3

Unless stated otherwise, submissions are planned to occur in US and EU.

✓ indicates a submission which has occurred with regulatory action pending

# negative symptoms and sub-optimal control

Status as of March 31, 2013
Summary: Focus on innovation and growth

1. Strategic focus on innovation and driving Personalised Healthcare

2. Strong growth in US and Emerging Markets; innovative access models

3. Leading product pipeline providing value for the future
Doing now what patients need next