Reimagining Medicine

Vas Narasimhan, CEO
January 7, 2019
Disclaimer

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Our external environment is reshaping what it takes to lead in the long-term

- Explosion in data science
- New understanding of human biology
- New therapeutic platforms
- Rising standard of care
- Pricing pressure
- Convergence of tech and health

Companies that focus their capital on leading science, cutting-edge platforms, and medicines with substantial absolute efficacy, will win.
Our aspiration is to be a leading medicines company
Powered by advanced therapy platforms and data science

We are focusing the company

Driving growth through cutting-edge platforms...
Spin Alcon

Leading pipeline

Passionate about productivity & margins...
Transform Sandoz

Embrace operational excellence every day

While building a new culture and lasting impact

Building advanced therapy platforms
Go big on data and digital

Unleash the power of our people

Build trust with society
Our aspiration is to be a leading medicines company
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We are focusing the company

- Spin Alcon
- Transform Sandoz

Driving growth through cutting-edge platforms...

- Leading pipeline
- Building advanced therapy platforms

Passionate about productivity & margins...

- Embrace operational excellence every day
- Go big on data and digital

While building a new culture and lasting impact

- Unleash the power of our people
- Build trust with society
We took major steps to focus the company in 2018 while building leading advanced therapy platforms

<table>
<thead>
<tr>
<th>Exits¹ to focus the company</th>
<th>Deals¹ to build new platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>gsk</td>
<td>Gene Therapy</td>
</tr>
<tr>
<td>Alcon²</td>
<td>Cell Therapy</td>
</tr>
<tr>
<td>Aurobindo³</td>
<td>Radio-Drug Conjugates</td>
</tr>
<tr>
<td>Boston Pharmaceuticals⁴</td>
<td></td>
</tr>
</tbody>
</table>

All trademarks are the property of their respective owners  
1. Announced or closed in 2018  
2. The planned 100% spinoff of Alcon is subject to general market conditions, tax rulings and opinions, final Board endorsement and shareholder approval at the AGM in February 2019; completion expected in H1 2019  
3. The announced sale of Sandoz US dermatology and oral solids portfolio to Aurobindo is subject to the completion of customary closing conditions  
4. Sale of our anti-bacterial portfolio to Boston Pharmaceuticals is one example of portfolio prioritization. Others include out-licensing of BJG398 to QED Therapeutics, FGF401 to EverNov, LXS196 to IDEAYA.
Our Sandoz transformation will help enable us to compete in a more challenging environment.

Reshaping the portfolio...

#1 in biosimilars with 8 products on the market, and more to come

2006 – 2016

- Omnitrope
- BINCORIT
- ZARZIO

2017

- RIXATHON
- Erelzi

2018

- Hyrimoz
- Zessly

Collaborations with:

- Biocon (next-gen biosimilars)
- Gan & Lee (insulin biosimilars)
- AUROBINDO

...while driving efficiency

Geographic focus

Lean cost structure

- SKU rationalization
- Manufacturing footprint optimization
- Regional consolidation
We remain disciplined and shareholder-focused in our capital allocation

Novartis priorities

1. Investments in organic business
   - 100% tax-neutral spin\(^1\) of Alcon to shareholders to enable focus on core medicines business

2. Growing annual dividend in CHF
   - Consistent dividend growth in CHF for 21 years

3. Value-creating bolt-ons\(^2\)
   - ~USD 15bn M&A bolt-ons in 2018
   - 100+ collaboration and licensing deals completed

4. Share buybacks
   - ~USD 17bn of net share buybacks over past 5 years, including purchases under new USD 5bn program\(^3\)

---

1. The planned 100% spinoff of Alcon is subject to general market conditions, tax rulings and opinions, final Board endorsement and shareholder approval at the AGM in February 2019; completion expected in H1 2019
2. Includes M&A and BD&L
3. Share buyback of up to USD 5bn announced on June 29, 2018
Our aspiration is to be a leading medicines company
Powered by advanced therapy platforms and data science

We are focusing the company
Spin Alcon

Driving growth through cutting-edge platforms...
Leading pipeline

Passionate about productivity & margins...
Embrace operational excellence every day

While building a new culture and lasting impact
Unleash the power of our people

Transform Sandoz

Building advanced therapy platforms
Go big on data and digital

Build trust with society

While building a new culture and lasting impact
Unleash the power of our people

Building advanced therapy platforms
Go big on data and digital

Build trust with society
Our in-line growth brands provide a solid foundation for continued growth

### 9M 2018

<table>
<thead>
<tr>
<th>Sales USD million</th>
<th>Growth vs. PY USD million</th>
<th>cc</th>
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<tbody>
<tr>
<td>Cosentyx</td>
<td>2,031</td>
<td>575</td>
</tr>
<tr>
<td>Entresto</td>
<td>710</td>
<td>388</td>
</tr>
<tr>
<td>Promacta</td>
<td>844</td>
<td>232</td>
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<tr>
<td>Translarna</td>
<td>842</td>
<td>215</td>
</tr>
<tr>
<td>Jakavi</td>
<td>721</td>
<td>172</td>
</tr>
<tr>
<td>Kisqali</td>
<td>175</td>
<td>134</td>
</tr>
<tr>
<td>Lorattine</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>Kymriah</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>

1. Not meaningful
We have a highly productive and valuable pipeline

<table>
<thead>
<tr>
<th>Scale</th>
<th>Value</th>
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<tbody>
<tr>
<td>200+</td>
<td>Projects in clinical development</td>
</tr>
<tr>
<td>&gt;500</td>
<td>Ongoing clinical trials(^3)</td>
</tr>
<tr>
<td>60</td>
<td>Major submissions planned 2019-2021(^4)</td>
</tr>
</tbody>
</table>

1. Individual assets with expected peak sales >$1bn across all indications  
2. Confirmatory development – clinical development post-proof of concept  
3. Across NIBR and GDD  
We maintain pipeline depth in core therapeutic areas

<table>
<thead>
<tr>
<th>Therapeutic area</th>
<th>Oncology</th>
<th>Cardio-Metabolic</th>
<th>IHD</th>
<th>Neuroscience</th>
<th>Ophthalmology</th>
<th>Respiratory</th>
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<tr>
<td><strong>Oncology</strong></td>
<td></td>
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<tr>
<td>Kymriah®</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>New indications</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BYL719 Breast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEG101 Sickle cell</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lutathera® Neuroendocrine</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ACZ885, INC280 Lung</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Pharmaceuticals</strong></td>
<td>Entresto® HFP EF</td>
<td>Cosentyx® LCM</td>
<td>Mayzent™2</td>
<td>RTH258</td>
<td>QAW039 Asthma</td>
<td></td>
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<tr>
<td>BYL719 Breast</td>
<td>LHW090 Hypertension</td>
<td>QGE031 CSU/CIU</td>
<td>SPMS</td>
<td>nAMD, DME</td>
<td>QVM149 Asthma</td>
<td></td>
</tr>
<tr>
<td>SEG101 Sickle cell</td>
<td>LNP023 Renal diseases</td>
<td>ZPL389 AD</td>
<td>OMB157</td>
<td>Luxturna® Retinopathy</td>
<td>CSJ117 Asthma</td>
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<tr>
<td>Lutathera® Neuroendocrine</td>
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<td>LOU064 CSU</td>
<td>AD</td>
<td>MS</td>
<td>CSJ117 Asthma</td>
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<tr>
<td>ACZ885, INC280 Lung</td>
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<td>LJN452 NASH</td>
<td>SMA</td>
<td>Zolgensma™3</td>
<td>CSJ117 Asthma</td>
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<td></td>
<td>CFZ533 Transplant</td>
<td></td>
<td>EMA401</td>
<td>Neuropathic pain</td>
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</tr>
<tr>
<td></td>
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<td>Mayzent™2</td>
<td></td>
<td></td>
<td>QAW039 Asthma</td>
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<td></td>
<td></td>
<td>SUO101</td>
<td></td>
<td></td>
<td>QVM149 Asthma</td>
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<td>LC0109</td>
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<td></td>
<td>CSJ117 Asthma</td>
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<tr>
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<td></td>
<td>ZO1123</td>
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<td>CSJ117 Asthma</td>
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<tr>
<td></td>
<td></td>
<td>EMA401</td>
<td></td>
<td></td>
<td>CSJ117 Asthma</td>
<td></td>
</tr>
</tbody>
</table>

1. Including Promacta®, Tafinlar®+Mekinist®, Jakavi®, among others
2. The brand name Mayzent™ has been provisionally approved by the FDA and EMA for the investigational product siponimod (BAF312), but the product itself has not been approved for sale in any country
3. The brand name Zolgensma™ has been provisionally approved by the FDA for the investigational product AVXS-101 (onasemnogene abeparvovec-xxxx), but the product itself has not received marketing authorization or BLA approval from any regulatory authorities
4. Aimovig® is developed in collaboration with Amgen; Luxturna® marketed ex-US

**Leading in-market brand**

Multiple¹

**Pipeline**

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**Aimovig®** is developed in collaboration with Amgen; Luxturna® marketed ex-US

**Length of presentation**

12 J.P. Morgan Healthcare Conference | January 7, 2019 | Novartis Investor Presentation
With 10+ potential blockbuster\(^1\) launches planned in the next 2 years

<table>
<thead>
<tr>
<th>Individual assets with expected peak sales &gt;USD 1bn across all indications</th>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trial readouts in 2019</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BYL719 mBC, PI3K+</td>
<td>RTH258 nAMD</td>
<td>Cosentyx® nrAxSpA</td>
<td>OMB157 Relapsing MS</td>
</tr>
<tr>
<td>Mayzent™ SPMS</td>
<td>SEG101 Sickle Cell Disease</td>
<td>Entresto® HFpEF</td>
<td>PDR001 combo Metastatic Melanoma</td>
</tr>
<tr>
<td>Zolgensma™ SMA</td>
<td>INC280 NSCLC</td>
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Zolgensma™ (AVXS-101) is a potential foundational treatment for SMA

Launch preparations on track for Zolgensma™ in SMA Type 1

- US, EU, Japan regulatory approvals expected 1H 2019
- Manufacturing capacity in place to deliver in launch markets
- Partnering flexibly to introduce Zolgensma™

Full clinical program for Zolgensma™ underway in all other SMA subtypes

- Pre-symptomatic and intrathecal study enrolling rapidly
- Next major clinical readouts expected at AAN 2019

The brand name Zolgensma™ has been provisionally approved by the FDA for the investigational product AVXS-101 (onasemnogene abeparvovec-xxxx), but the product itself has not received marketing authorization or BLA approval from any regulatory authorities.
Draft ICER Report demonstrates the significant value of Zolgensma™ vs. current options

- Zolgensma™ cost-effective in Type 1 SMA versus best standard of care at one-time price of $1.6m to $5.4m depending on QALY cut-off used
  - Historically $500,000/QALY used by authorities for ultra-rare diseases
- Zolgensma™ demonstrates significantly higher cost-effectiveness than currently available treatments at all thresholds

Table 4.25

| QALY-Based Threshold Analyses Excluding “Unrelated” Health Care Costs in Type 1 SMA: Health Care Perspective |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Threshold Price at $50,000/QALY | $12,096 | $543,429 |
| Threshold Price at $100,000/QALY | $27,819 | $1,086,995 |
| Threshold Price at $150,000/QALY | $43,542 | $1,630,561 |
| Threshold Price at $200,000/QALY | $59,266 | $2,174,127 |
| Threshold Price at $300,000/QALY | $90,712 | $3,261,259 |
| Threshold Price at $500,000/QALY | $153,605 | $5,435,524 |

QALY: Quality-Adjusted Life Year
* Based on a placeholder price of $2,000,000

Mayzent™ (BAF312, siponimod): Only DMT to demonstrate efficacy in a typical SPMS population

The brand name Mayzent™ has been provisionally approved by the FDA and EMA for the investigational product siponimod (BAF312), but the product itself has not been approved for sale in any country. CDP, confirmed disease progression; OR, odds ratio; ARR, annualized relapse rate; EDSS, Expanded Disability Status Scale; Gd+, gadolinium-enhancing; n.r, not reported; IFNB1b, interferon-beta1b

2. Kapoor R, et al. Lancet Neurol. 2018;17:405-15 (composite endpoint included time to EDSS progression, 20% increase in timed 25-foot walk or 20% increase in 9-hole Peg test)

<table>
<thead>
<tr>
<th>Typical SPMS</th>
<th>EXPAND¹ Siponimod</th>
<th>ASCEND² Natalizumab</th>
<th>N. American³ IFNB1b study</th>
<th>European⁴ IFN1b study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>1,651</td>
<td>887</td>
<td>939</td>
<td>718</td>
</tr>
<tr>
<td>Age, years (mean)</td>
<td>48</td>
<td>47</td>
<td>47</td>
<td>41</td>
</tr>
<tr>
<td>Time since onset, years (mean)</td>
<td>17</td>
<td>17</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>EDSS (mean/median)</td>
<td>5.4/6.0</td>
<td>5.6/6.0</td>
<td>5.1/n.r.</td>
<td>5.2</td>
</tr>
<tr>
<td>On-study ARR (placebo group)</td>
<td>0.16</td>
<td>0.17</td>
<td>0.28</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Primary Endpoint
- 3mCDP: 21%↓ (p=0.0130)
- 6mCDP: 26%↓ (p=0.006)
- Composite²: OR 0.86 (p=0.287) [6mCDP: OR 1.06 (p=0.753)]
- 6mCDP; hazard ratio not reported, p=0.71
- 3mCDP, OR 0.65, p=0.0008

Regulatory activities
- NDA accepted
- PDUFA expected end of Mar. 2019 (PRV used)
- MAA validated
- Decision expected latest by Dec. 2019
- Fast Track designation granted
- On track for Q4 2018 submission
- On track for Q4 2018 submission
- On track for Q4 2018 submission

**Table**

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>USA</td>
<td>NDA accepted</td>
</tr>
<tr>
<td></td>
<td>PDUFA expected end of Mar. 2019 (PRV used)</td>
</tr>
<tr>
<td>EMA</td>
<td>MAA validated</td>
</tr>
<tr>
<td></td>
<td>Decision expected latest by Dec. 2019</td>
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<tr>
<td>EU</td>
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<td></td>
<td>On track for Q4 2018 submission</td>
</tr>
<tr>
<td>Japan</td>
<td>On track for Q4 2018 submission</td>
</tr>
<tr>
<td>Canada</td>
<td>On track for Q4 2018 submission</td>
</tr>
<tr>
<td>Australia</td>
<td>On track for Q4 2018 submission</td>
</tr>
</tbody>
</table>
**RTH258 (brolucizumab): Dries better, lasts longer**
Potential to address important unmet needs in nAMD

1. At Week 48, demonstrated superiority in three secondary endpoints considered key markers of nAMD in clinical practice: central subfield retinal thickness, retinal fluid (intraretinal fluid and/or subretinal fluid) and disease activity; advantages maintained at Week 96.
2. At Week 48, the majority of patients (56% and 51%) were maintained on q12w injection interval in HAWK and HARRIER respectively with remaining patients on q8w regimen (key secondary endpoints); greater than 75% of these patients continued on q12w dosing up to Week 96.
3. Met primary efficacy endpoint of noninferiority to aflibercept in mean change in BCVA with comparable safety to aflibercept; vision gains comparable to aflibercept up to Week 96.

*Illustrative

---

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3. Met primary efficacy endpoint of noninferiority to aflibercept in mean change in BCVA with comparable safety to aflibercept; vision gains comparable to aflibercept up to Week 96.

Expanding the game-board with advanced therapy platforms

(Illustrative)

<table>
<thead>
<tr>
<th>Low-molecules</th>
<th>Large molecules</th>
<th>Cell therapy</th>
<th>Gene therapy</th>
<th>Radio-drug conjugates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology</td>
<td>Targeted protein degradation</td>
<td>Novel biomaterials&lt;sup&gt;1&lt;/sup&gt;</td>
<td>CAR-T</td>
<td>AAA</td>
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<tr>
<td>Cardio-Metabolic</td>
<td>Bispecific antibodies&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Intellia &amp; Caribou&lt;sup&gt;3&lt;/sup&gt;</td>
<td>CBMG&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Endocyte</td>
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<td>IHD</td>
<td>Novel materials&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Cell for Cure&lt;sup&gt;4&lt;/sup&gt;</td>
<td>AveXis</td>
<td>NIBR Portfolio</td>
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<td>Transcription factors</td>
<td>Inhaled biologics</td>
<td>Luxturna&lt;sup&gt;®&lt;/sup&gt;</td>
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<td>Ophthalmology</td>
<td>Novel biomaterials</td>
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<tr>
<td>Respiratory</td>
<td>Inhaled biologics</td>
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</table>

1. Partnership with the Wyss Institute for Biologically Inspired Engineering at Harvard University and the Dana-Farber Cancer Institute
2. Collaboration with Xencor
3. Collaborations with Intellia Therapeutics and Caribou Biosciences
4. Proposed acquisition; transaction subject to the completion of customary closing conditions
5. Collaboration with Cellular Biomedicine Group in China
Novartis Cell Therapy Platform with broad pipeline and global manufacturing scale for cell processing

Pipeline of 8 clinical programs, large pre-clinical effort

<table>
<thead>
<tr>
<th>CAR-T type</th>
<th>Indication</th>
<th>Phase 1</th>
<th>Ph 2/Pivotal</th>
<th>Phase 3</th>
<th>Submitted</th>
<th>Approved</th>
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<tr>
<td>CD19 CAR-T</td>
<td>Pediatric &amp; young adult r/r ALL</td>
<td></td>
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<tr>
<td>CD19 CAR-T</td>
<td>r/r DLBCL</td>
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<tr>
<td>CD19 CAR-T</td>
<td>DLBCL in 1st relapse</td>
<td></td>
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<tr>
<td>CD19 CAR-T</td>
<td>r/r FL</td>
<td></td>
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</tr>
<tr>
<td>CD19 CAR-T</td>
<td>r/r DLBCL in combination with pembrolizumab</td>
<td>Started 2018</td>
<td></td>
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</tr>
<tr>
<td>CD19 CAR-T</td>
<td>Adult r/r ALL</td>
<td></td>
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<tr>
<td>CD19 CAR-T</td>
<td>CLL</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CAR-T-BCMA</td>
<td>r/r M/M combination</td>
<td>Started 2018</td>
<td></td>
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</tr>
</tbody>
</table>

Global scale in cell processing for lentiviral based therapies; established relationships with transplant centers

1. Proposed acquisition; transaction subject to the completion of customary closing conditions
Gene Therapy Platform with rapidly expanding pipeline, deep manufacturing expertise in AAV

7 programs in clinic over next year

<table>
<thead>
<tr>
<th>Selected assets</th>
<th>Indication</th>
<th>Stage</th>
<th>Next milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVXS-101 (AAV9)</td>
<td>SMA</td>
<td>Filed</td>
<td>Regulatory approval(s) 1H19</td>
</tr>
<tr>
<td>CGF166 (Ad5)†</td>
<td>Hearing loss</td>
<td>Phase 1</td>
<td></td>
</tr>
<tr>
<td>CPK850 (AAV8)†</td>
<td>Retinitis pigmentosa</td>
<td>Phase 1</td>
<td></td>
</tr>
<tr>
<td>AVXS-201 RTT (AAV9)</td>
<td>Reit Syndrome</td>
<td>Preclinical</td>
<td>IND 1Q19</td>
</tr>
<tr>
<td>AVXS-301 SOD1 (AAV9)</td>
<td>Inherited ALS-SOD1</td>
<td>Preclinical</td>
<td>IND 2Q19</td>
</tr>
<tr>
<td>AVXS-401</td>
<td>Undisclosed</td>
<td>Preclinical</td>
<td>IND 2H19</td>
</tr>
<tr>
<td>AVXS-501</td>
<td>Undisclosed</td>
<td>Preclinical</td>
<td>IND 4Q19 / 1Q20</td>
</tr>
</tbody>
</table>

Manufacturing expansion ongoing for AAV-based gene therapies

- Flexible, disposable based manufacturing platform
- Operational facility in Chicago; ongoing build-out in North Carolina
- Capabilities across AAV vectors; deep CMC expertise
Radio-Drug Conjugate Platform with growing pipeline in solid tumors; highly-complex, scaled, on-demand manufacturing capability

Manufacturing requires unique manufacturing centers, supply chain expertise, and relationships with nuclear medicine centers

Radio-drug conjugates being explored across full range of solid tumors

<table>
<thead>
<tr>
<th>Product</th>
<th>Disease (target)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>177Lu PSMA-R2</td>
<td>Prostate cancer (PSMA)</td>
<td>Phase I study initiated 2Q 2018</td>
</tr>
<tr>
<td>68Ga PSMA-R2</td>
<td>PET Diagnostic</td>
<td>Phase I study initiated 2Q 2018</td>
</tr>
<tr>
<td>18F CT1009</td>
<td>PET Diagnostic</td>
<td>Ph I study completed</td>
</tr>
<tr>
<td>177Lu NeoBOMB1</td>
<td>Breast cancer (PSMA)</td>
<td>Phase I study to open 1H 2019</td>
</tr>
<tr>
<td>68Ga NeoBOMB1</td>
<td>Colorectal cancer (GIST (GRPR))</td>
<td>Ongoing Phase I ISS in GIST Phase II study initiated 2Q 2018</td>
</tr>
<tr>
<td>177Lu FF-10158</td>
<td>Glioblastoma (integrin Alphavbeta 3/5)</td>
<td>Preclinical</td>
</tr>
<tr>
<td>68Ga FF-10158</td>
<td>PET Diagnostic</td>
<td>Preclinical</td>
</tr>
</tbody>
</table>

Patient dose
Standard dose of 7.4GBq/cycle
Aseptic conditions

Target Isotope
DOTATATE
Aseptic vial filling

Precursor Isotope

Isotope supply
Production
Hospital

Lutathera®
Aseptic conditions
On demand production

177Lu Isotope
Produced in nuclear reactors

J.P. Morgan Healthcare Conference | January 7, 2019 | Novartis Investor Presentation
Our aspiration is to be a leading medicines company
Powered by advanced therapy platforms and data science

We are focusing the company

Spin Alcon

Driving growth through cutting-edge platforms...

Leading pipeline

Passionate about productivity & margins...

Embrace operational excellence every day

While building a new culture and lasting impact

Transform Sandoz

Building advanced therapy platforms

Go big on data and digital

Unleash the power of our people

Build trust with society
We are committed to driving consistent margin expansion

Innovative Medicines
Core margin (%)

IM Division
2017

Large Pharma average

Mid 30s

+ Acceleration of key growth drivers
+ Resource allocation and productivity programs in commercial units
+ Cross-divisional synergies: Novartis Technical Operations, Novartis Business Services, Procurement
- Generics (mainly Afinitor®, Exjade®, Gilenya®)
- Launch investments for potential future blockbusters

1. Source: Novartis analysis of average 2016 core margin of Large Pharma peer companies
With an aggressive productivity agenda

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Goal</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTO</td>
<td>~USD 2bn savings by 2020, primarily driven by these functions¹; increased focus on Cash Conversion Cycle</td>
<td>▪ Announced 16 plant transformations in 2018, including 8 exits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Announced significant restructuring in Switzerland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Developing predictive capabilities to reduce inventory, increase efficiency &amp; automation</td>
</tr>
<tr>
<td>NBS</td>
<td></td>
<td>▪ Driving transformation through standardization, simplification &amp; footprint optimization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Announced global restructuring plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Launched effort to automate high-impact global processes</td>
</tr>
<tr>
<td>Procurement</td>
<td></td>
<td>▪ Savings targets in all units across major spend categories</td>
</tr>
<tr>
<td>Cross-Divisional</td>
<td></td>
<td>▪ Recruited new Head of Procurement from low-margin industry</td>
</tr>
</tbody>
</table>

¹. Includes USD 1bn of savings from the NTO network transformation announced in January 2016.
Advancing an enterprise-wide digital transformation

- More efficient manufacturing
- End-to-end process automation
- Building digital capabilities
- Transforming Pharma commercial models
- Data repository for Oncology
- Launch excellence along the patient journey
- Innovative digital solutions for customers around/beyond the pill
- Mining clinical trial data for new insights
- Combining medicines with cutting-edge technology
- Digital therapeutics
- END2D
- NUSD2D
- PharmaACT
- ENGAGE

Digital community | Tech enablers | Data & advanced analytics | External partners | Digital awareness hub

All trademarks are the property of their respective owners
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Spin Alcon
Transform Sandoz

Driving growth through cutting-edge platforms...
Leading pipeline
Building advanced therapy platforms

Passionate about productivity & margins...
Embrace operational excellence every day
Go big on data and digital

While building a new culture and lasting impact
Unleash the power of our people
Build trust with society
Culture transformation is key to our success
Initiated 5-year journey in 2018

“Inspired, Curious, Unbossed”

- Reshaped Executive Committee with over 50% new members
- Rolled out new culture vision to create an empowered organization
- 100% of top leaders going through leadership “academy”; 100% of managers to receive digital upward feedback on an ongoing basis
- Digitally enabled tools such as Yammer, Spigit, Pigeonhole, and Glint increasing engagement
Focused effort to build lasting trust with society

**Ethical Standards**
- Established Ethics, Risk & Compliance function, led by ECN member
- Embedding principles-based decision-making in the organization

**Pricing & Access**
- Integrating Access Principles into overall business strategy
- Improved ranking in Access to Medicines Index to #2

**Global Health Challenges**
- Renewed commitment to malaria with $100m investment
- Established Global Partnership for Zero Leprosy

**Corporate Citizenship**
- Approved new environmental sustainability targets, incl. carbon neutrality by 2025
- Helped lead Pat-INFORMED initiative, making patents available online

**Stakeholder Engagement**
- Continued to improve transparency and evolve reporting
- Increased reporting on Financial, Environmental and Social (FES) impact on society
Positioned for top and bottom line growth in the coming years

In-market growth drivers

- Cosentyx®, Entresto®, Kisqali®, Lutathera®, Kymriah®, Promacta®, Tafinlar®+Mekinist®, Jakavi®, Biosimilars
- 7 in-market blockbusters today with 6 additional potential blockbusters emerging

Key launches

- Zolgensma™, Mayzent™, RTH258, Aimovig®, OMB157, BYL719, SEG101, Biosimilars
- 10+ potential blockbusters to launch by 2020

Productivity improvements

- NTO transformation, NBS transformation, Procurement initiative, Digital initiatives
- Savings of ~USD 2bn expected by 2020¹

Generic erosion

- Afinitor® (2019), Exjade® (2019), Gilenya® (TBC)
- Patent expiries primarily in near term

The brand name Zolgensma™ has been provisionally approved by the FDA for the investigational product AVXS-101 (onasemnogene abeparvovec-xxxx), but the product itself has not received marketing authorization or BLA approval from any regulatory authorities. The brand name Mayzent™ has been provisionally approved by the FDA and EMA for the investigational product siponimod (BAF312), but the product itself has not been approved for sale in any country.

¹ Includes USD 1bn of savings from the NTO network transformation announced in January 2016.
Conclusion

- Focusing as a medicines company
- Driving growth with a leading pipeline and cutting-edge platforms
- Commitment to productivity and margin expansion
- Building a new culture and focus on impact for society
- Positioned for top and bottom line growth