# Business Overview

## 2020 Annual Meeting of Stockholders

Michel Vounatsos, CEO

June 3, 2020

# Forward-looking statements

This presentation contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to: our strategy and plans; potential of our commercial business and pipeline programs; capital allocation and investment strategy; clinical development programs, clinical trials, and data readouts and presentations; regulatory filings and the timing thereof; the potential benefits, safety, and efficacy of our products and investigational therapies; the anticipated benefits and potential of investments, collaborations, and business development activities; our future financial and operating results; the direct and indirect impact of COVID-19 on our business and operations, including sales, expenses, supply chain, manufacturing, research and development costs, clinical trials, and employees; and our ability to achieve our environmental, social, and governance goals, commitments, and targets. These forward-looking statements may be accompanied by such words as “aim,” “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “may,” “plan,” “potential,” “possible,” “will,” “would,” and other words and terms of similar meaning. Drug development and commercialization involve a high degree of risk, and only a small number of research and development programs result in commercialization of a product. Results in early stage clinical trials may not be indicative of full results or results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements or the scientific data presented.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including: our dependence on sales from our products; failure to protect and enforce our data, intellectual property, and other proprietary rights and the risks and uncertainties relating to intellectual property claims and challenges; the direct and indirect impacts of the ongoing COVID-19 pandemic on our business, results of operations, and financial condition; uncertainty of long-term success in developing, licensing, or acquiring other product candidates or additional indications for existing products; failure to compete effectively due to significant product competition in the markets for our products; failure to successfully execute or realize the anticipated benefits of our strategic and growth initiatives; the risk that positive results in a clinical trial may not be replicated in subsequent or confirmatory trials or success in early stage clinical trials may not be predictive of results in later stage or large scale clinical trials or trials in other potential indications; risks associated with clinical trials, including our ability to adequately manage clinical activities, unexpected concerns that may arise from additional data or analysis obtained during clinical trials, regulatory authorities may require additional information or further studies, or may fail to approve or may delay approval of our drug candidates; the occurrence of adverse safety events, restrictions on use with our products, or product liability claims; difficulties in obtaining and maintaining adequate coverage, pricing, and reimbursement for our products; risks relating to technology failures or breaches; our dependence on collaborators, joint venture partners, and other third parties for the development, regulatory approval, and commercialization of products and other aspects of our business, which are outside of our full control; risks associated with current and potential future healthcare reforms; risks relating to management and key personnel changes, including attracting and retaining key personnel; failure to comply with legal and regulatory requirements; the risks of doing business internationally, including currency exchange rate fluctuations; risks relating to investment in our manufacturing capacity; problems with our manufacturing processes; risks related to commercialization of biosimilars; fluctuations in our operating results; fluctuations in our effective tax rate; risks related to investment in properties; the market, interest, and credit risks associated with our portfolio of marketable securities; risks relating to share repurchase programs; risks relating to access to capital and credit markets; risks related to indebtedness; environmental risks; risks relating to the distribution and sale by third parties of counterfeit or unfit versions of our products; risks relating to the use of social media for our business; change in control provisions in certain of our collaboration agreements; and the other risks and uncertainties that are described in the Risk Factors section of our most recent annual or quarterly report and in other reports we have filed with the U.S. Securities and Exchange Commission. (SEC).

These statements are based on our current beliefs and expectations and speak only as of the date of this presentation. We do not undertake any obligation to publicly update any forward-looking statements.

# The time is now for neuroscience



**#1** **Cause of disability** globally

**#2** **Cause of deaths** worldwide

## Current Core Business

**~2.5M patients** with multiple sclerosis

Spinal muscular atrophy: A **leading genetic cause of infant mortality**

## Near-Term Opportunities

**~50M patients** with dementia

**<5 years average life expectancy** for patients with ALS

Stroke: **5th leading cause of death** in the U.S.

**Up to 200,000** patients with inherited retinal disorders in the U.S.

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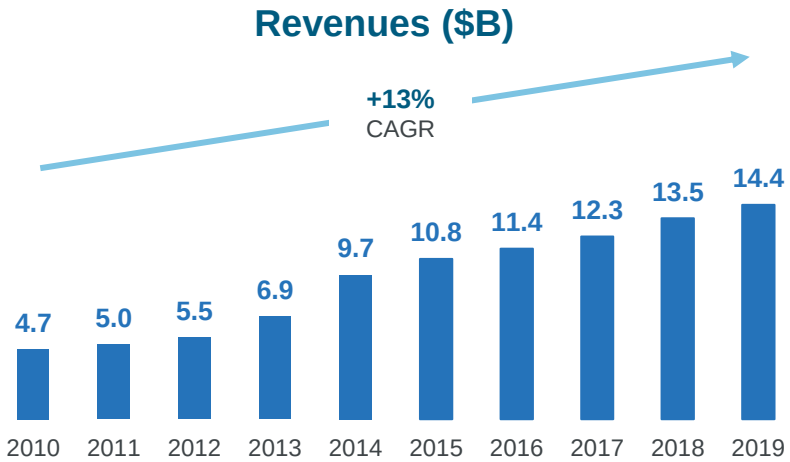
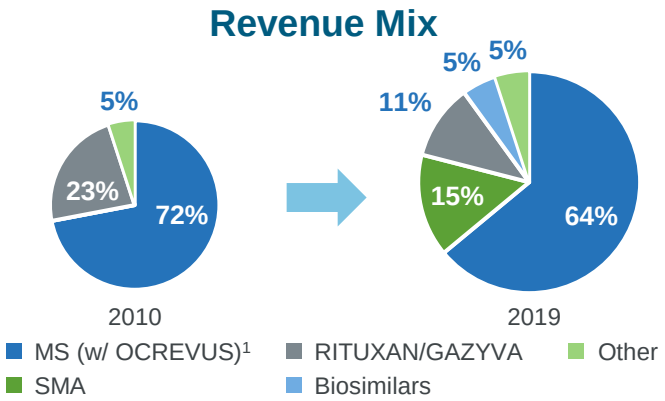
Source: Lancet Neurology, 2017; World Health Organization; The ALS Association; American Heart Association; Biogen, data on file.

# Strong topline performance

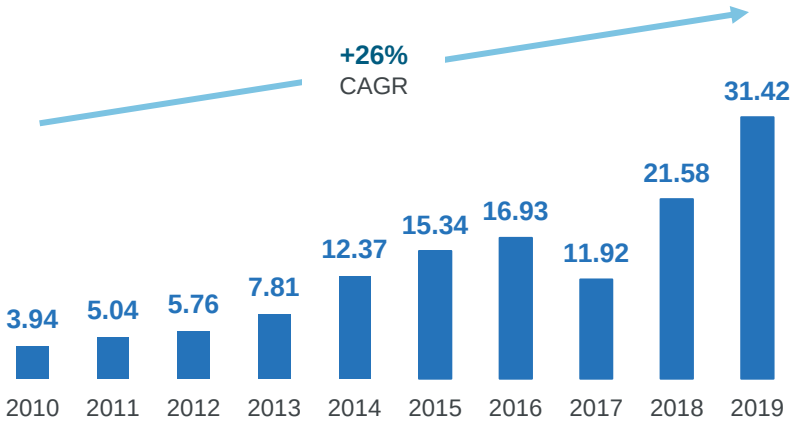


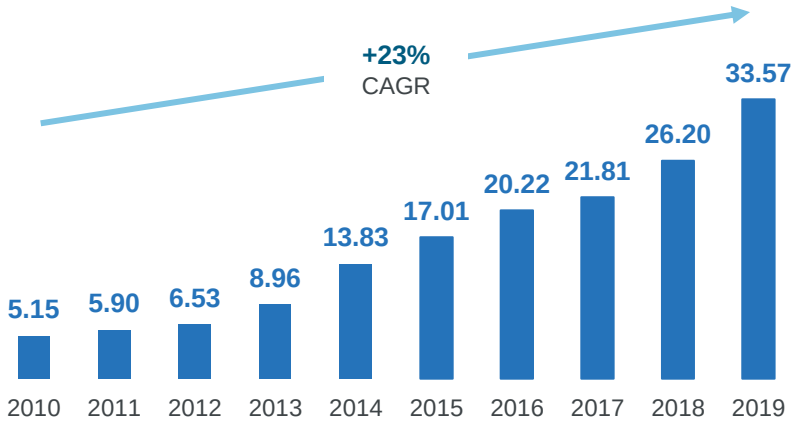

1. Includes royalties on the sales of OCREVUS, which began in 2017.

# Strong financial track record

## GAAP diluted EPS ($)



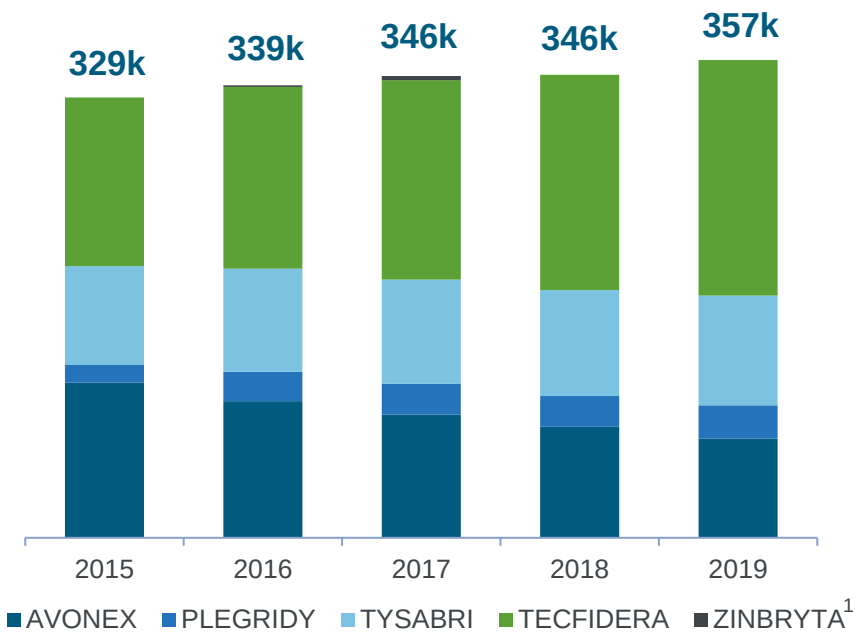

## Non-GAAP diluted EPS ($)




A reconciliation of our GAAP to non-GAAP financial results is at the end of this presentation.

# Demonstrated resilience in our $9 billion MS franchise

## Biogen MS patients




## Highlights

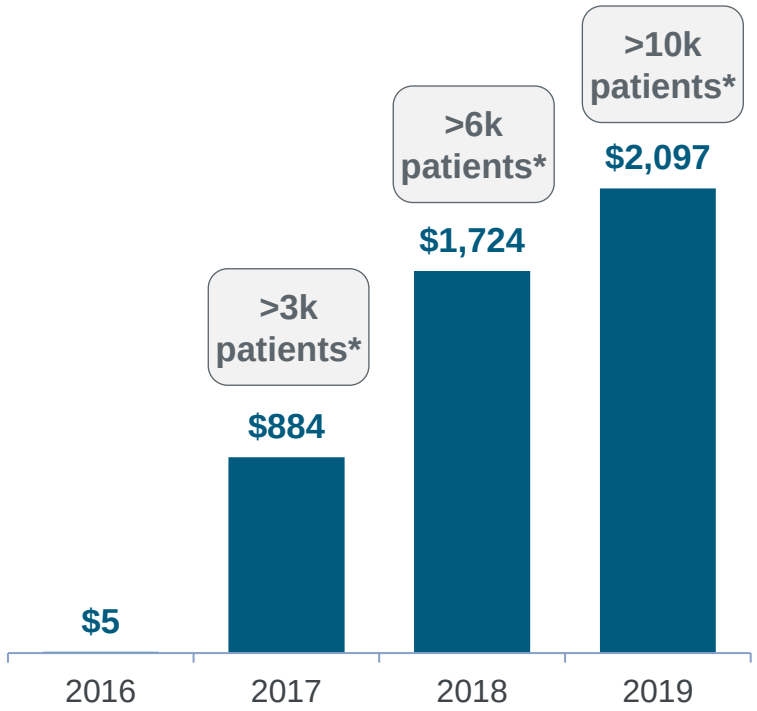
- > $20B market with ~ 1 million treated MS patients worldwide[2]
- Biogen products treat ~34% of all treated MS patients globally[2]
- **VUMERITY (diroximel fumarate)[3]** launched in the U.S. as a novel oral option
- Continuing to invest in MS R&D, pursuing:
  - Extended interval dosing of TYSABRI
  - Opicinumab and BIIB061 for remyelination
  - BIIB091 (oral BTK inhibitor) in Phase 1

Note: Patient numbers represent estimated ending patient count as of December 31st of each year.

1. In March 2018 Biogen and AbbVie, Inc. announced the withdrawal of ZINBRYTA.
2. Biogen data on file as of December 31, 2019.
3. VUMERITY is licensed from Alkermes.

# Blockbuster global launch of SPINRAZA, driven by global expansion

## SPINRAZA revenues ($M)




## Highlights

- Proven efficacy across all patient types and a well characterized safety profile
- **Broad label and largest body of data in SMA**
- **Investing in SMA beyond SPINRAZA, pursuing:**
  - Higher dose for even greater efficacy
  - Muscle enhancement (BIIB110, Phase 1)
  - Novel ASO drug candidates
  - Preclinical oral splicing modulator

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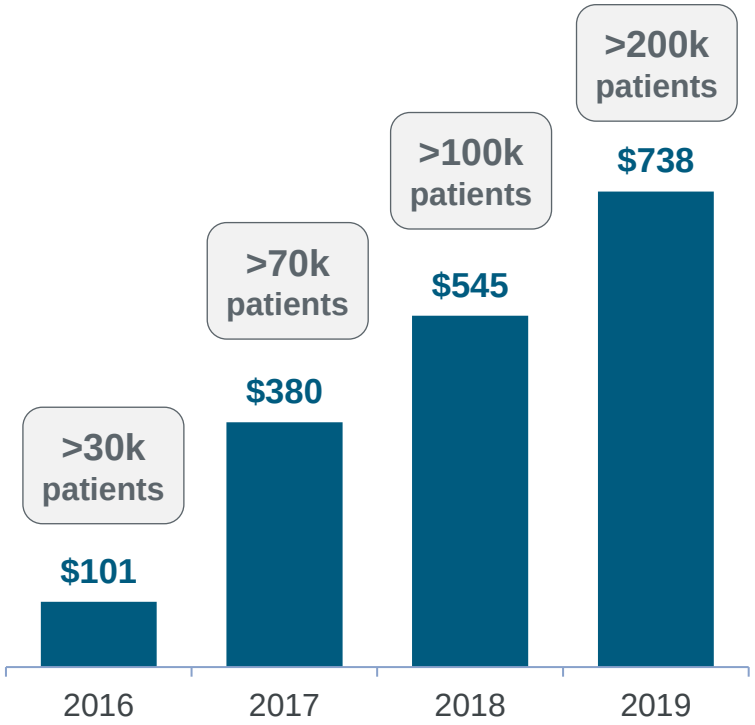
* Total patients across the post-marketing setting, the EAP, and clinical trials.

# Growing biosimilars business

SAMSUNG BIOEPIS

## Anti-TNF biosimilars revenues ($M)




## Commercialization of anti-TNFs in Europe

- Biogen contributed ~ €1.8 billion of healthcare savings in 2019 across Europe*

## 2019 Commercialization Agreement

- Biogen to commercialize potential ophthalmology biosimilars referencing LUCENTIS and EYLEA across the U.S., Canada, Europe, Japan, and Australia
  - Global market of almost $11 billion in 2018^
- Commercialization rights to anti-TNFs in China

## Samsung Bioepis Joint Venture

- Equity stake of ~49.9%

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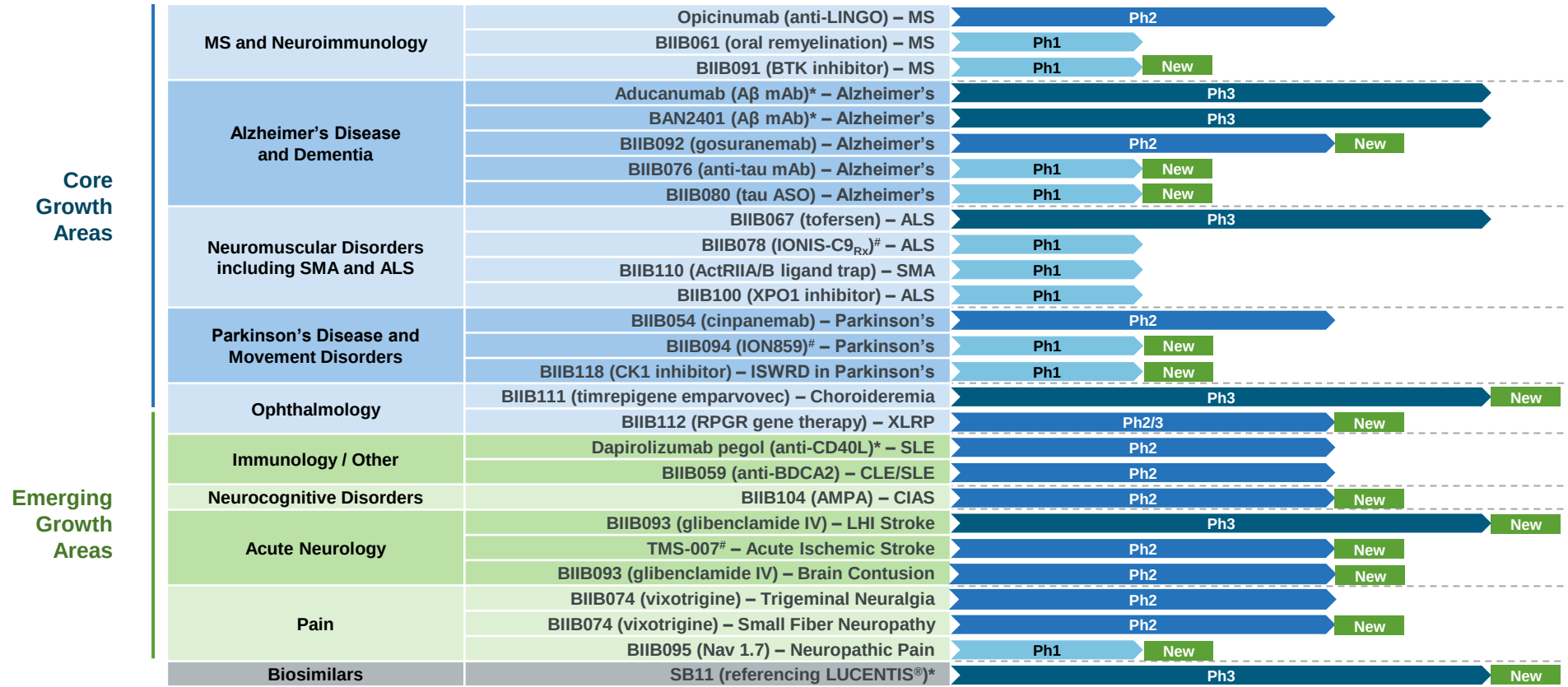
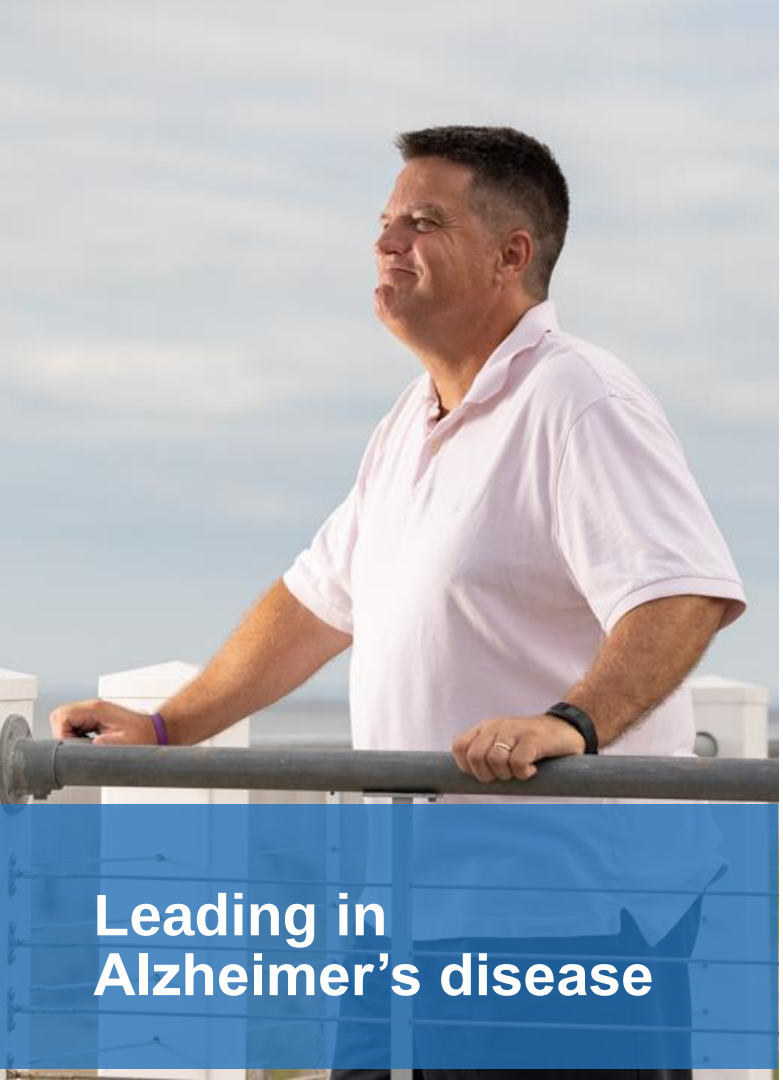
* Biogen data on file.
^ Company reported sales, EvaluatePharma.

# Added 15 clinical programs since beginning of 2017




*Collaboration program; #Option agreement; MS = multiple sclerosis; ALS = amyotrophic lateral sclerosis; SMA = spinal muscular atrophy; ISWRD = irregular sleep wake rhythm disorder; XLRP = X-linked retinitis pigmentosa; SLE = systemic lupus erythematosus; CLE = cutaneous lupus erythematosus; CIAS = cognitive impairment associated with schizophrenia; LHI = large hemispheric infarction



# Leading in Alzheimer's disease

**Sufficient exposure to high dose aducanumab reduced clinical decline**

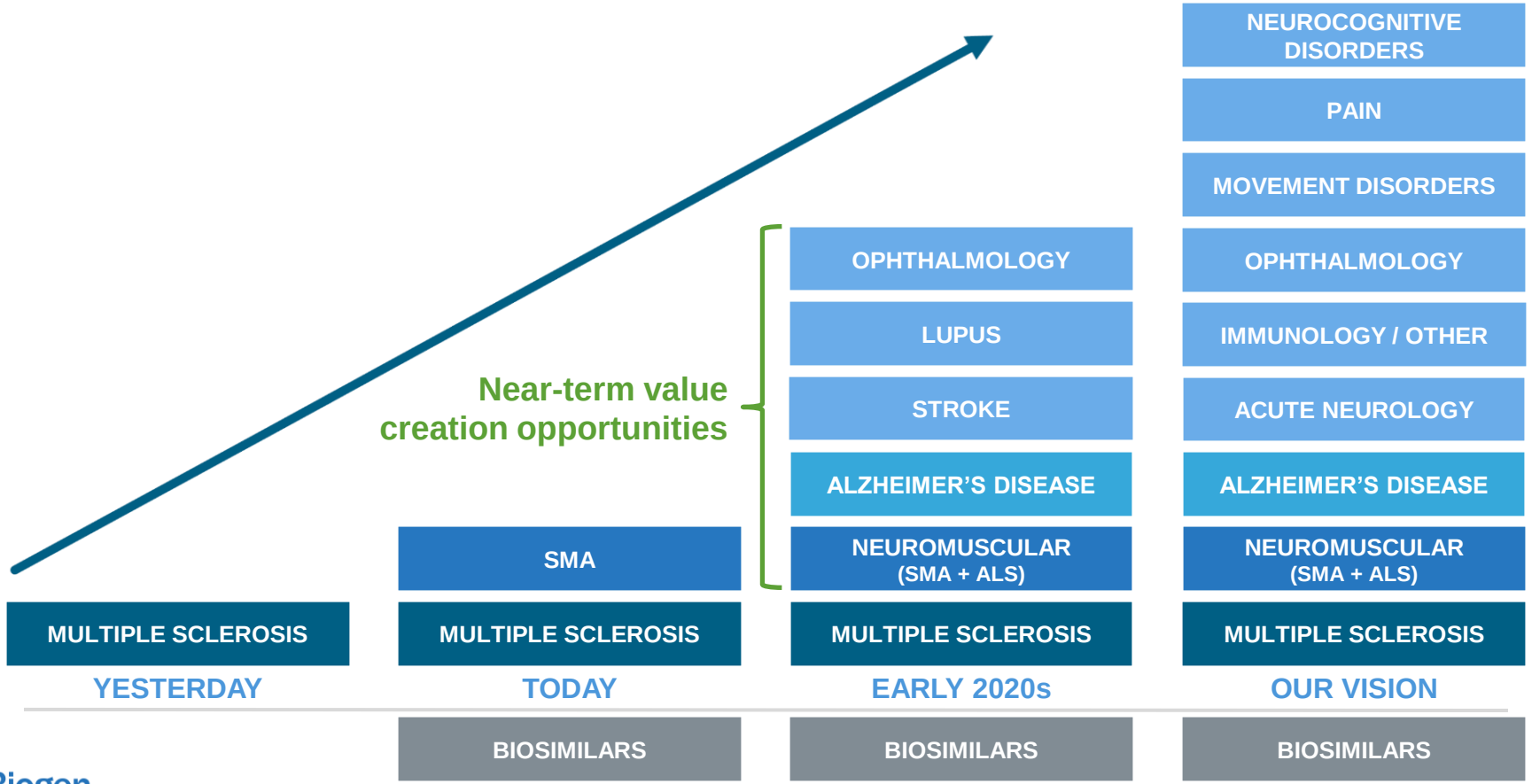
**If approved, aducanumab would become the first therapy to reduce clinical decline in Alzheimer's disease**

**Actively engaging with the FDA as well as regulators in Europe and Japan**

**Expect to complete a regulatory filing in the U.S. in Q3 2020**

Note: Aducanumab is being developed in collaboration with Eisai Co., Ltd..

# Continuing to build a multi-franchise portfolio



# Where science meets humanity at Biogen

## PATIENTS

**Science that transforms patient lives by improving brain health, mobility, breathing, and vision.**

~ 215,000 Patients
treated with biosimilars^

1 in 10 MS Patients
across 10 Global Markets
utilize digital applications
(Aby/CLEO)^^

Driving Health Equity
in clinical trial participation

Donated to n-Lorem Foundation
to support its mission of providing
access to experimental ASOs*
for ultra-rare diseases

## EMPLOYEES

**Science that is inspired by the diversity and passion of our people.**

46% women
in director-level positions and above^^

26% ethnic or racial minorities
U.S. director-level roles
and above^^

Signed CEO Action Pledge
to advance diversity & inclusion goals

'Best Place to Work
for Disability Inclusion'
3 consecutive years

100% on Human Rights Campaign
Equality Index

## ENVIRONMENT

**Science that acts with purpose to address the urgent and long-term challenges facing humankind.**

3 consecutive years as #1 Biotech
on Dow Jones Sustainability Index**

RobecoSAM Gold Award Winner
for our work in sustainability

Reduced environmental footprint in
2019 as we grew the business
-1.6% energy / -3% water / -7% waste

Joined EV100
to transition fleet to electric vehicles

Green chemistry principles
lowered impact and costs

## COMMUNITY

**Science that seeks to solve societal problems and create access to innovation.**

$10M donated by Biogen Foundation
for COVID-19 relief
supporting over 60 non-profits globally

55k+ students engaged in
Community Lab since inception^^

54% summer Community Lab students
from underrepresented groups and/or
low-income households in 2019^^

35% increase in 2019 total volunteer hours
including 30+ countries for Care Deeply Day

Biogen Foundation is supporting
MGH Youth Neurology Program
to inspire underrepresented youth in STEM

Biogen

^Biogen data on file as of March 31, 2020 ^^Biogen data on file as of December 31, 2019 *Antisense oligonucleotides **DJSI World and DJSI North America

# Questions & Answers

# GAAP to Non-GAAP reconciliation

**Diluted EPS and net income attributable to Biogen Inc.**

| (Unaudited, $ in millions, except per share amounts) | 2019 | 2018 | 2017[1] | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GAAP Diluted EPS** | **$ 31.42** | **$ 21.58** | **$ 11.92** | **$ 16.93** | **$ 15.34** | **$ 12.37** | **$ 7.81** | **$ 5.76** | **$ 5.04** | **$ 3.94** |
| Adjustments to net income attributable to Biogen Inc. | 2.15 | 4.62 | 9.89 | 3.29 | 1.67 | 1.46 | 1.15 | 0.77 | 0.86 | 1.21 |
| **Non-GAAP Diluted EPS** | **$ 33.57** | **$ 26.20** | **$ 21.81** | **$ 20.22** | **$ 17.01** | **$ 13.83** | **$ 8.96** | **$ 6.53** | **$ 5.90** | **$ 5.15** |
| **GAAP Net Income Attributable to Biogen Inc.** | **$ 5,889** | **$ 4,431** | **$ 2,539** | **$ 3,703** | **$ 3,547** | **$ 2,935** | **$ 1,862** | **$ 1,380** | **$ 1,234** | **$ 1,005** |
| Amortization of acquired intangible assets[A, B] | 490 | 747 | 815 | 374 | 365 | 473 | 331 | 194 | 207 | 209 |
| TECFIDERA litigation settlement charge[B] | - | - | - | 455 | - | - | - | - | - | - |
| Acquired in-process research and development | - | 113 | 120 | - | - | - | - | - | - | - |
| Gain (loss) on fair value remeasurement of contingent consideration[C] | (64) | (12) | 63 | 15 | 31 | (39) | (1) | 27 | 36 | - |
| Premium paid on purchase of Ionis common stock[D] | - | 162 | - | - | - | - | - | - | - | - |
| (Gain) loss on equity security investments | (200) | (128) | - | - | - | - | - | - | - | - |
| Net distribution to noncontrolling interests[E] | - | 44 | 132 | - | - | - | - | - | - | - |
| Restructuring, business transformation and other cost saving initiatives[F] | 5 | 23 | 19 | 88 | 93 | - | 27 | 11 | 19 | 87 |
| Hemophilia business separation costs | - | - | 19 | 18 | - | - | - | - | - | - |
| Loss on divestiture of Hillerød Denmark manufacturing operations[G] | 55 | - | - | - | - | - | - | - | - | - |
| Acquisition-related costs[H] | 54 | - | - | - | - | | | | | |
| Other reconciling items | 7 | 10 | - | (4) | - | 47 | 10 | 8 | 12 | 129 |
| Income tax effect related to reconciling items | 31 | (147) | (236) | (225) | (104) | (135) | (93) | (53) | (62) | (116) |
| Elimination of deferred tax asset | - | 11 | - | - | - | - | - | - | - | - |
| Swiss Tax reform[I] | (54) | - | - | - | - | - | - | - | - | - |
| U.S. Tax reform[J] | - | 125 | 1,174 | - | - | - | - | - | - | - |
| Amortization included in Equity in loss of investee, net of tax[K] | 78 | - | - | - | - | - | - | - | - | - |
| **Non-GAAP Net Income Attributable to Biogen Inc.** | **$ 6,291** | **$ 5,378** | **$ 4,644** | **$ 4,423** | **$ 3,932** | **$ 3,281** | **$ 2,136** | **$ 1,567** | **$ 1,446** | **$ 1,315** |

[1] On February 1, 2017, we completed the spin-off of our hemophilia business. Our consolidated results of operations reflect the financial results of our hemophilia business through January 31, 2017.

Biogen

# Notes to GAAP to Non-GAAP reconciliation

A. Amortization and impairment of acquired intangible assets for the twelve months ended December 31, 2019, reflects the impact of a $215.9 million impairment charge related to certain in-process research and development (IPR&D) assets associated with the Phase 2b study of BG00011 (STX-100) for the potential treatment of idiopathic pulmonary fibrosis, which was discontinued during the third quarter of 2019.

Amortization and impairment of acquired intangible assets for the twelve months ended December 31, 2018, includes the impact of impairment charges related to certain IPR&D assets associated with our vixotrigine (BIIB074) program totaling $189.3 million that were recognized during the third quarter of 2018. During the third quarter of 2018 we completed a Phase 2b study of vixotrigine for the potential treatment of painful lumbosacral radiculopathy (PLSR). The study did not meet its primary or secondary efficacy endpoints and we discontinued development of vixotrigine for the potential treatment of PLSR. As a result, we recognized an impairment charge of approximately $60.0 million during the third quarter of 2018 to reduce the fair value of the IPR&D intangible asset to zero. In addition, we delayed the initiation of the Phase 3 studies of vixotrigine for the potential treatment of trigeminal neuralgia (TGN) as we awaited the outcome of ongoing interactions with the U.S. Food and Drug Administration (FDA) regarding the design of the Phase 3 studies, a more detailed review of the data from the Phase 2b study of vixotrigine for the potential treatment of PLSR and insights from the Phase 2 study of vixotrigine for the potential treatment of small fiber neuropathy. We reassessed the fair value of the TGN program using reduced expected lifetime revenues, higher expected clinical development costs and a lower cumulative probability of success. As a result of that reassessment, we recognized an impairment charge of $129.3 million during the third quarter of 2018 to reduce the fair value of the TGN IPR&D intangible asset to $41.8 million.

Amortization and impairment of acquired intangible assets for the twelve months ended December 31, 2017, includes $444.2 million of impairment and amortization charges related to the intangible asset associated with our U.S. and rest of world licenses to Forward Pharma’s intellectual property, including Forward Pharma's intellectual property related to TECFIDERA. Subsequent to the resolution of the U.S. proceeding in March 2017, we evaluated the recoverability of the U.S. asset acquired from Forward Pharma and recorded an impairment charge to adjust the carrying value of the acquired U.S. asset to fair value.

The 2017 charge also includes a $31.2 million pre-tax impairment charge related to our acquired and in-licensed rights and patents intangible asset due to the European Medicines Agency Article 20 Procedure of ZINBRYTA.

B. In January 2017 we entered into a settlement and license agreement among Biogen Swiss Manufacturing GmbH, Biogen International Holding Ltd., Forward Pharma A/S (Forward Pharma) and certain related parties, which was effective as of February 1, 2017. Pursuant to this agreement, we obtained U.S. and rest of world licenses to Forward Pharma’s intellectual property, including Forward Pharma’s intellectual property related to TECFIDERA. In exchange, we paid Forward Pharma $1.25 billion in cash, of which $795.2 million was recognized within intangible assets in the first quarter of 2017.

# Notes to GAAP to Non-GAAP reconciliation

We had an intellectual property dispute with Forward Pharma in the U.S. concerning intellectual property related to TECFIDERA. In March 2017 the U.S. intellectual property dispute was decided in our favor. Forward Pharma appealed to the U.S. Court of Appeals for the Federal Circuit. We evaluated the recoverability of the U.S. asset acquired from Forward Pharma and recorded a $328.2 million impairment charge in the first quarter of 2017 to adjust the carrying value of the acquired U.S. asset to fair value reflecting the impact of the developments in the U.S. legal dispute and continued to amortize the remaining net book value of the U.S. intangible asset in our consolidated statements of income utilizing an economic consumption model. The U.S. Court of Appeals for the Federal Circuit upheld the U.S. Patent and Trademark Office's March 2017 ruling and in January 2019 denied Forward Pharma's petition for rehearing. We evaluated the recoverability of the U.S. asset based upon these most recent developments and recorded a $176.8 million impairment charge in the fourth quarter of 2018 to reduce the remaining net book value of the U.S. asset to zero.

We have an intellectual property dispute with Forward Pharma in the European Union concerning intellectual property related to TECFIDERA. In March 2018 the European Patent Office (EPO) revoked Forward Pharma's European Patent No. 2 801 355. Forward Pharma has filed an appeal to the Technical Boards of Appeal of the EPO and the appeal is pending. Based upon our assessment of this ruling, we continue to amortize the remaining net book value of the rest of world intangible asset in our consolidated statements of income utilizing an economic consumption model. The remaining net book value of the TECFIDERA rest of world intangible asset as of December 31, 2019, was $36.1 million.

For the twelve months ended December 31, 2019, compared to the prior year period, the decrease in amortization of acquired intangible assets, excluding impairment charges, was primarily due to a net overall decrease in our expected rate of amortization for acquired intangible assets. This decrease was primarily due to lower amortization subsequent to the impairment in the fourth quarter of 2018 of the U.S. license to Forward Pharma's intellectual property, including Forward Pharma's intellectual property related to TECFIDERA, and higher expected lifetime revenues of TYSABRI.

C. (Gain) loss on fair value remeasurement of contingent consideration for the twelve months ended December 31, 2019, reflects our adjustment to the value of our contingent consideration obligations related to the BG00011 asset, resulting in a gain of $61.2 million during the third quarter of 2019.

(Gain) loss on fair value remeasurement of contingent consideration for the twelve months ended December 31, 2018, reflects our adjustment to the fair value of our contingent consideration obligations related to our vixotrigine program for the potential treatment of TGN.

In the third quarter of 2018 we decided to delay the initiation of the Phase 3 studies of vixotrigine for the potential treatment of TGN. As a result of that decision, we adjusted the value of our contingent consideration obligations related to the TGN program to reflect the lower cumulative probabilities of success resulting in a gain of $89.6 million in the third quarter of 2018.

In the fourth quarter of 2018 we received feedback from the FDA regarding the design of the Phase 3 studies of vixotrigine for the potential treatment of TGN. Following this feedback, we adjusted the fair value of our contingent consideration obligations related to our vixotrigine program for the potential treatment of TGN to reflect the increased probabilities of success and recognized a loss of $80.6 million in the fourth quarter of 2018.

# Notes to GAAP to Non-GAAP reconciliation

D. In June 2018 we closed a 10-year exclusive collaboration agreement with Ionis Pharmaceuticals, Inc. (Ionis) to develop novel antisense oligonucleotide drug candidates for a broad range of neurological diseases (the 2018 Ionis Agreement) for a total payment of $1.0 billion, consisting of an upfront payment of $375.0 million and the purchase of approximately 11.5 million shares of Ionis common stock at a cost of $625.0 million.

The 11.5 million shares of Ionis common stock were purchased at a premium to their fair value at the transaction closing date. The premium consisted of acquiring the shares at a price above the fair value based on the trailing 10-day weighted-average close price prior to entering into the 2018 Ionis Agreement in April 2018 and the effect of certain holding period restrictions. We recorded an asset of $462.9 million in investments and other assets in our condensed consolidated balance sheets reflecting the fair value of the common stock as of the purchase date and a charge of $162.1 million to research and development expense in our condensed consolidated statements of income in the second quarter of 2018 reflecting the premium paid for the common stock.

E. Net distribution to noncontrolling interests reflects the $50.0 million payment to Neurimmune SubOne AG (Neurimmune), net of Neurimmune's tax, to further reduce the previously negotiated royalty rates payable on products developed under our amended collaboration and license agreement with Neurimmune, including royalties payable on potential commercial sales of aducanumab, by an additional 5%.

F. Charges incurred during the fiscal years 2017 through 2019 pertain to our 2017 corporate strategy implementation and other restructuring initiatives aimed to create a leaner and simpler operating model.

G. In August 2019 we completed the sale of all of the outstanding shares of our subsidiary that owned our biologics manufacturing operations in Hillerød, Denmark to FUJIFILM Corporation (FUJIFILM). Upon the closing of this transaction, we received approximately $881.9 million in cash, which may be adjusted based on contractual terms, which are discussed below. We determined that the operations disposed of in this transaction did not meet the criteria to be classified as discontinued operations under the applicable guidance.

As part of this transaction, we have provided FUJIFILM with certain minimum batch production commitment guarantees. There is a risk that the minimum contractual batch production commitments will not be met. Based upon current estimates we expect to incur an adverse commitment obligation of approximately $74.0 million associated with such guarantees. We may adjust this estimate based upon changes in business conditions, which may result in the increase or reduction of this adverse commitment obligation in subsequent periods. We also may be obligated to indemnify FUJIFILM for liabilities that existed relating to certain business activities incurred prior to the closing of this transaction.

In addition, we may earn certain contingent payments based on future manufacturing activities at the Hillerød facility. For the disposition of a business, our policy is to recognize contingent consideration when the consideration is realizable. As of December 31, 2019, we believed the probability of earning these payments is remote and therefore we did not include these contingent payments in our calculation of the fair value of the operations.

As part of this transaction, we entered into certain manufacturing services agreements with FUJIFILM pursuant to which FUJIFILM will use the Hillerød facility to produce commercial products for us, such as TYSABRI, as well as other third-party products.

# Notes to GAAP to Non-GAAP reconciliation

In connection with this transaction we recognized a total net loss of approximately $164.4 million in our consolidated statements of income. This loss included a pre-tax loss of $95.5 million, which was recorded in loss on divestiture of Hillerød, Denmark manufacturing operations. The loss recognized was based on exchange rates and business conditions on the closing date of this transaction, and included costs to sell our Hillerød, Denmark manufacturing operations of approximately $11.2 million and our estimate of the fair value of an adverse commitment of approximately $114.0 million associated with the guarantee of future minimum batch production at the Hillerød facility. The value of this adverse commitment was determined using a probability-weighted estimate of future manufacturing activity. We also recorded a tax expense of $68.9 million related to this transaction. During the fourth quarter of 2019 we recorded a $40.2 million reduction in our estimate of the future minimum batch commitment utilizing our current manufacturing forecast, which reflects the impact of forecasted batches of aducanumab, resulting in a reduction in the pre-tax loss on divestiture from $95.5 million to $55.3 million.

H. Acquisition-related costs in 2019 include stock option expense related to the accelerated vesting of stock options previously granted to Nightstar Therapeutics plc (NST) employees as a result of our acquisition of NST in the second quarter of 2019 as well as transaction and integration costs.

I. During the third quarter of 2019 a new taxing regime in the country and certain cantons of Switzerland was enacted and we refer to this as Swiss Tax Reform. As a result of the impact of Swiss Tax Reform, we recorded an income tax benefit of approximately $54.3 million resulting from a remeasurement of our deferred tax assets and liabilities in the third quarter of 2019.

J. The Tax Cuts and Jobs Act of 2017 (2017 Tax Act) resulted in significant changes to the U.S. corporate income tax system. These changes include a federal statutory rate reduction from 35% to 21%, the elimination or reduction of certain domestic deductions and credits and limitations on the deductibility of interest expense and executive compensation. The 2017 Tax Act also transitions international taxation from a worldwide system to a modified territorial system, which has the effect of subjecting certain earnings of our foreign subsidiaries and collaborations to immediate U.S. taxation as global intangible low-taxed income (GILTI) or Subpart F income, and includes base erosion prevention measures on U.S. earnings and the reduced effective tax rate on income that comes from U.S. exports, called Foreign Derived Intangible Income. During the fourth quarter of 2018 we elected to recognize deferred taxes for the basis differences expected to reverse as GILTI is incurred and have established initial deferred tax balances, as of the enactment date of the 2017 Tax Act.

U.S. tax reform amounts for the twelve months ended December 31, 2018, reflects the effect of an expense of $135.8 million related to the establishment of GILTI deferred taxes.

Tax reform amounts for the twelve months ended December 31, 2018, reflects the effect of a net reduction of $34.6 million to our 2017 preliminary estimate associated with a one-time mandatory deemed repatriation tax on accumulated foreign subsidiaries' previously untaxed foreign earnings, an expense of $12.7 million for the remeasurement of our deferred tax balances and an $11.0 million expense to reflect other aspects of the 2017 Tax Act.

K. Amortization included in equity in loss of investee, net of tax reflects the amortization of the differences between the fair value of our investment in Samsung Bioepis Co., Ltd. and the carrying value of our interest in the underlying net assets of the investee. These basis differences are amortized over their economic life.

# Notes to GAAP to Non-GAAP reconciliation

**NOTES:** Our “Non-GAAP net income attributable to Biogen Inc.” and “Non-GAAP diluted earnings per share” financial measures exclude the following items from “GAAP net income attributable to Biogen Inc.” and “GAAP diluted earnings per share”: (1) purchase accounting, merger-related and other adjustments, (2) hemophilia business separation costs, (3) restructuring, business transformation and other cost saving initiatives, (4) (gain) loss on equity security investments, (5) stock option expense, (6) other select items and (7) their related tax effects.

We believe that the disclosure of these Non-GAAP financial measures provides additional insight into the ongoing economics of our business and reflects how we manage our business internally, set operational goals and form the basis of our management incentive programs. These Non-GAAP financial measures are not in accordance with generally accepted accounting principles in the United States and should not be viewed in isolation or as a substitute for reported, or GAAP, net income attributable to Biogen Inc. and GAAP diluted earnings per share. Numbers may not foot due to rounding.

Additional reconciliations of our Non-GAAP financial measures can be found in the Investors section of www.biogen.com.