Lantheus Holdings

Corporate Presentation

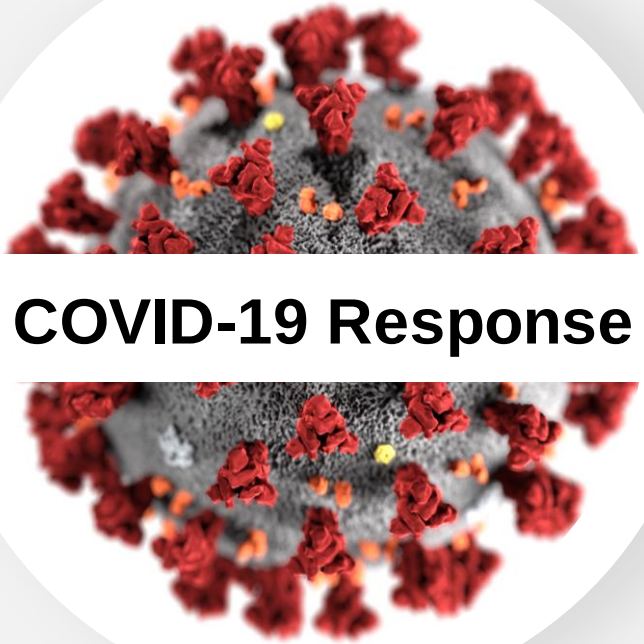
October 2020

Safe Harbor Statements

Cautionary Statement Regarding Forward-Looking Statements

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, that are subject to risks and uncertainties and are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements may be identified by their use of terms such as “anticipate,” “believe,” “confident,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “will” and other similar terms. Such forward-looking statements are based upon current plans, estimates and expectations that are subject to risks and uncertainties that could cause actual results to materially differ from those described in the forward-looking statements. The inclusion of forward-looking statements should not be regarded as a representation that such plans, estimates and expectations will be achieved. Readers are cautioned not to place undue reliance on the forward-looking statements contained herein, which speak only as of the date hereof. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by law. Risks and uncertainties that could cause our actual results to materially differ from those described in the forward-looking statements include : (i) our future operating results; (ii) the impact of the COVID-19 pandemic on our business, financial condition and prospects; (iii) risks that the anticipated benefits of the acquisition of Progenics Pharmaceuticals, Inc. including synergies or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected; (iv) regulatory risks related to our product candidates, including without limitation, our DEFINITY® modified (room temperature) formulation candidate and our lead clinical development agent PyL™ F 18; (v) expectations for future clinical trials, the timing and potential outcomes of clinical studies and filings and other interactions with regulatory authorities; (vi) the impact of legislative, regulatory, competitive and technological changes; and (vii) the risk and uncertainties discussed in our filings with the Securities and Exchange Commission (including those described in the Risk Factors section in our Annual Reports on Form 10-K and our Quarterly Reports on Form 10-Q).

Lantheus' Top Priority is the Health and Safety of Our Employees, Our Communities, and the Patients and Customers We Serve



COVID-19 Response

Lantheus products deemed essential

- Products continually manufactured and shipped daily from Lantheus campus

Cash availability remains solid due to prudent management of expenses

- Maintained liquidity to navigate uncertainty of the COVID-19 pandemic and beyond
- Implemented short-term expense controls

Donated 10,000 pieces of PPE

- Including masks, gowns and gloves to meet the urgent needs of healthcare workers on the front lines

The Lantheus Story: Market Leader Where We are Today

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Targeting Growing Markets

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Enhancing Growth from a Position of Strength

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Market Leader Where We Are Today

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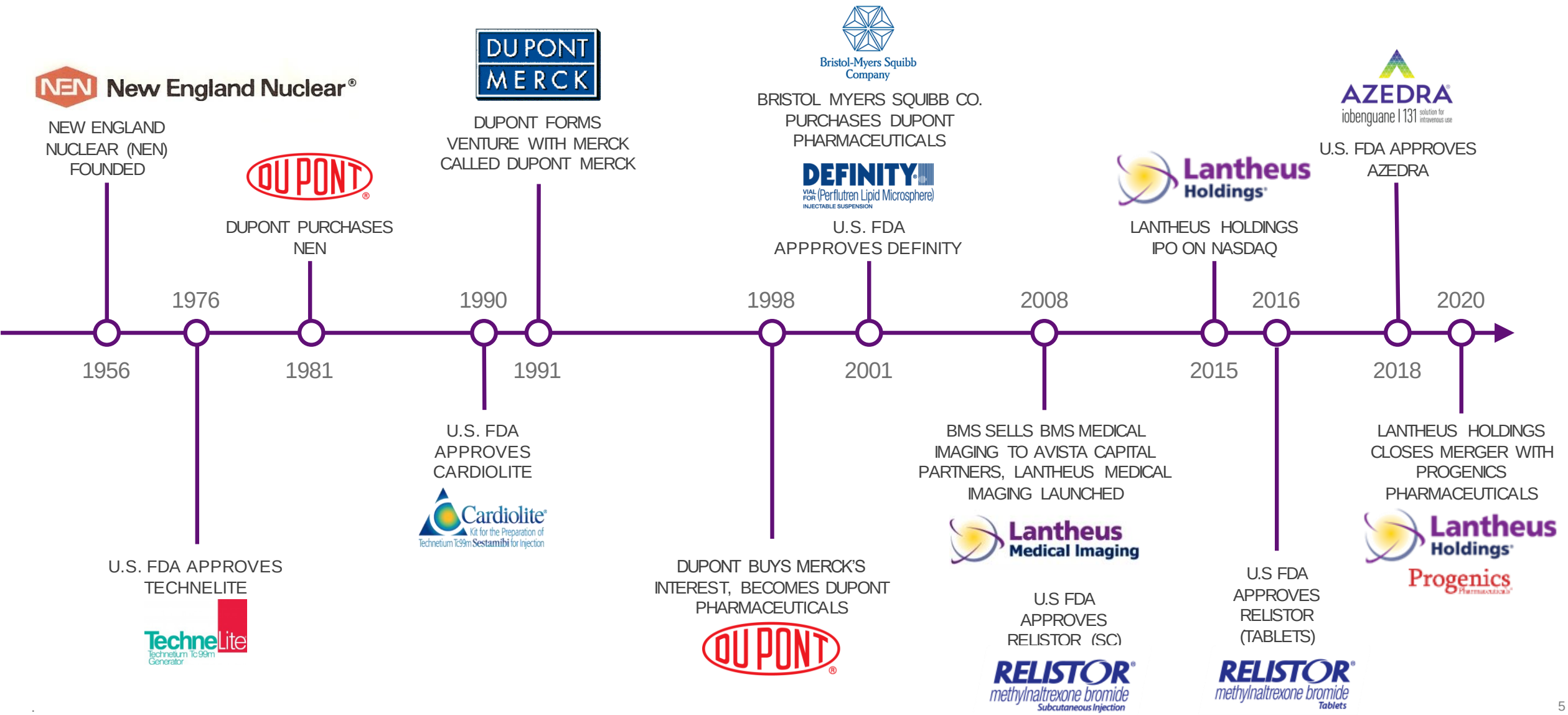
Strong Capital Position To Fund Our Future

Corporate Timeline



Radiopharmaceutical Business Model Defined by Unique Features

Highly Complex

Supply Chain & Logistics

Limited

Number of Nuclear Isotope Suppliers Worldwide

Highly Regulated

>30 Local, State, Federal, & International Agencies

Stakeholders

Strong Relationships with Radiopharmacies, Hospitals and Payers

Specialized

Product Development & Commercialization Capabilities in Nuclear Medicine

A Corporate Footprint Balanced by Unique Core Competencies

Expertise in microbubbles

- A world market leader in ultrasound enhancing agents
- Room temperature formulation (early 2021)*
- New geographies

Development and commercialization capabilities in nuclear isotopes

- Late stage development pipeline
- 11 commercial products – 7 imaging products & 4 therapeutic products
- Most used radiopharmaceutical imaging agent launched in the U.S. to date – Cardiolite

Strong relationships

- Echocardiology
- Nuclear medicine
- Urology
- Neuroendocrinology

Strength in direct distribution, logistics and sales

- Hospitals
- Clinics
- Group practices

Long-standing channel relationships

- Most diversified Moly supply chain
- Contracted relationships with 5 leading US radiopharmacy chains
- GPOs and IDNs**

Seasoned and experienced management team

- Pharma / Biotech / Medical Device expertise
- Tenured and highly specialized field personnel

* We currently believe that, if approved by the FDA, the modified formulation could become commercially available in early 2021, although that timing cannot be assured.
** Group Purchasing Organizations (GPOs) and Integrated Delivery Networks (IDNs)

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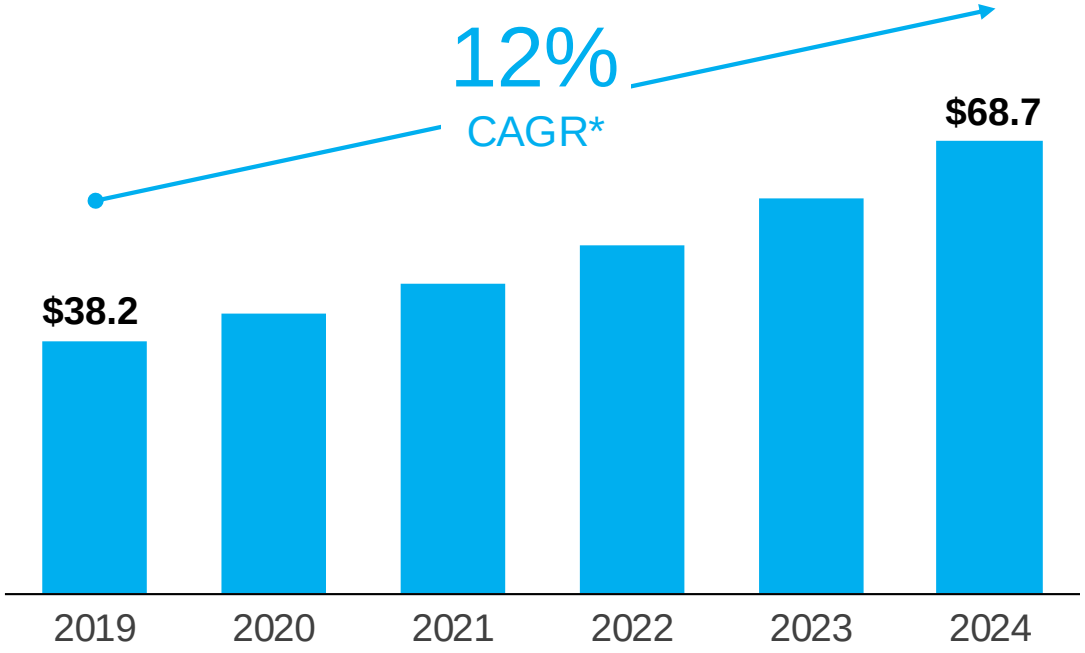
Serving Large, Growing Global Markets

Global Diagnostic Imaging Market

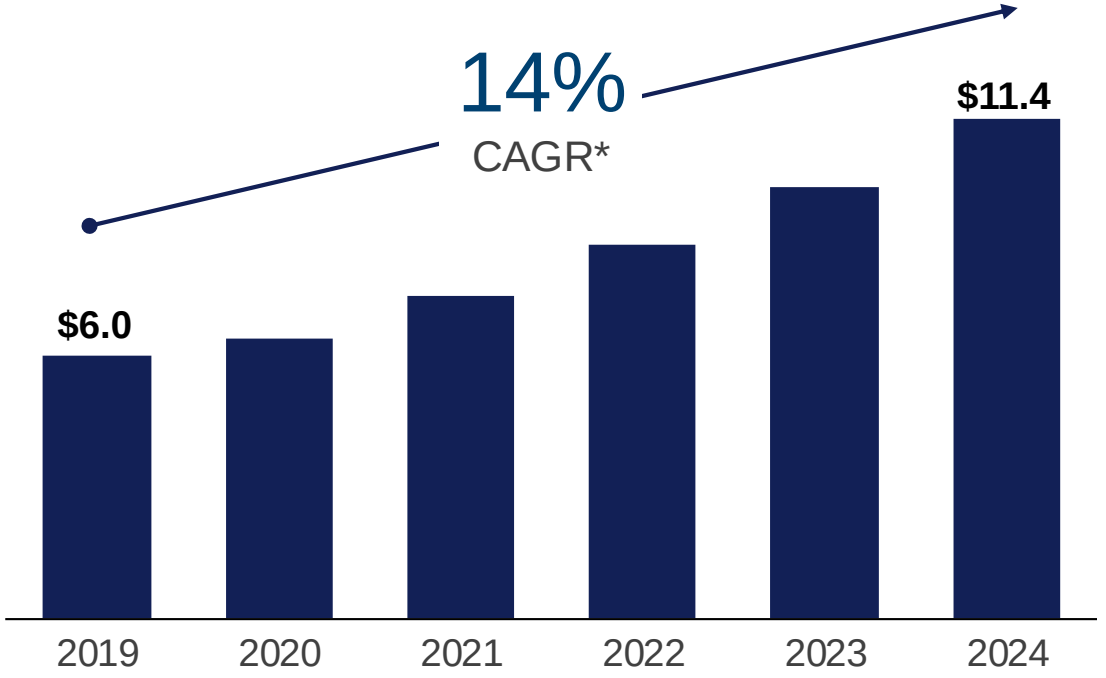
($B)



Source: GlobalData, Sept 2019

Global Nuclear Medicine Market

($B)



Source: MedRaysIntell, July 2019

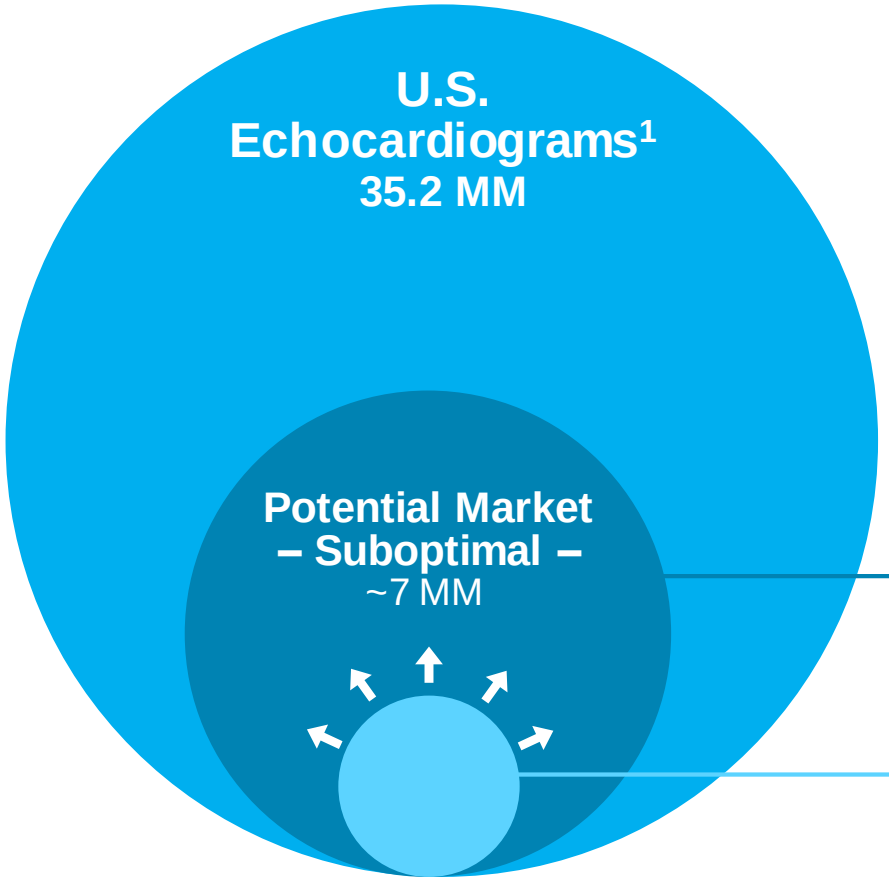
* 5-year CAGR

Significant U.S. Echocardiography Market Opportunity for DEFINITY

~2% Annual Growth Rate in Total Echocardiograms

DEFINITY®
VIAL FOR (Perflutren Lipid Microsphere)
INJECTABLE SUSPENSION

Over 80% market share for enhancing agents[1]

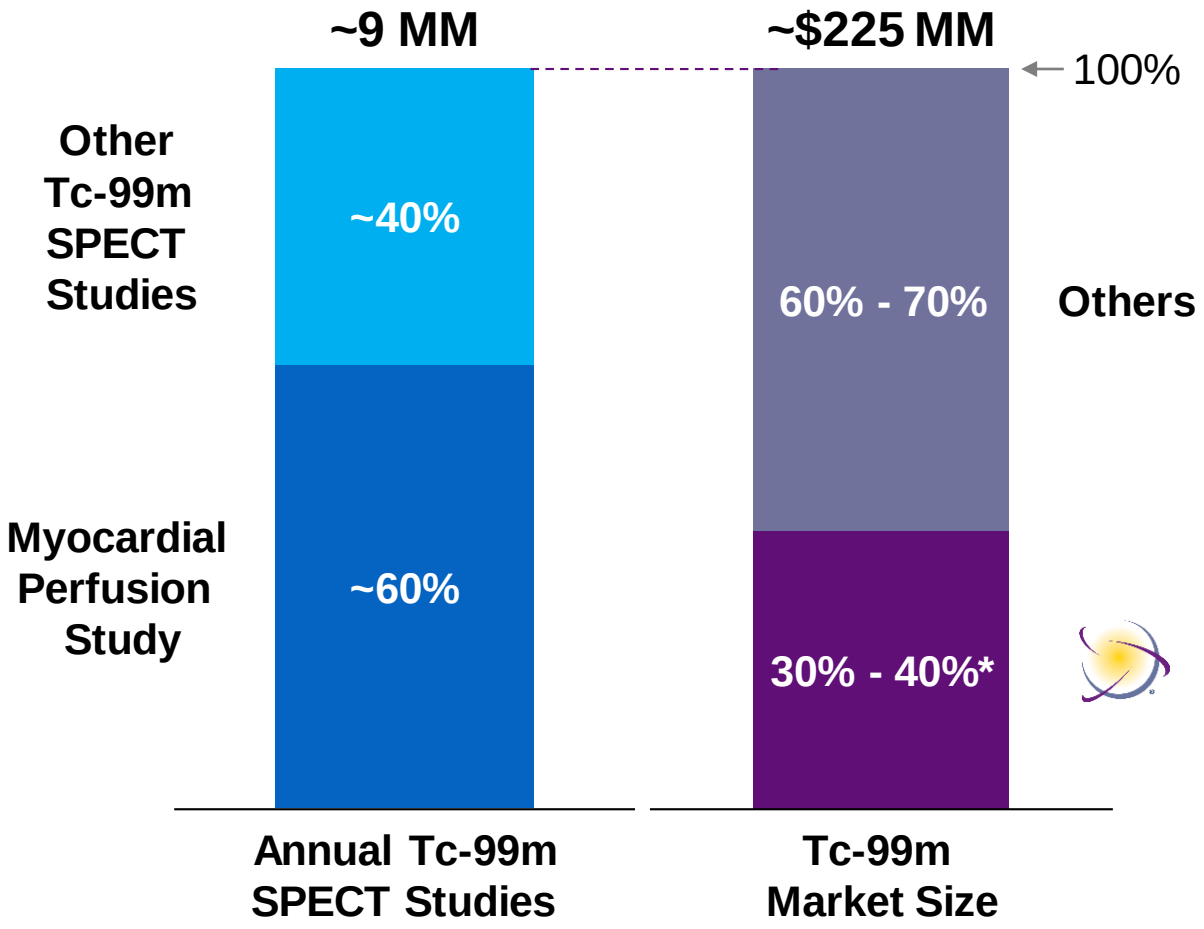


Current addressable market (20% of total)[2]

Echocardiograms currently performed with an enhancing agent[3]

Circles not drawn to scale.
[1] AMR Echocardiography Monthly Monitor, December 2019, [2] 20% of echocardiograms result in sub-optimal images. Source: Kurt M et al. J Am Coll Cardiol. 2009;53(9):802-810,
[3] LMI estimate.

U.S. SPECT Market: ~$225 MM Generator Market Driven Primarily by Cardiac Studies



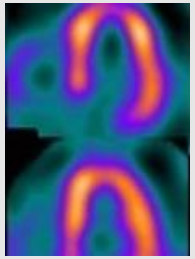
MM = millions
Source: AMR PADDS 2018 database, LMI internal market assessment
* LMI estimate for 2016-2019 market share

Market Dynamics

~9 MM annual SPECT studies utilize Tc-99m

Cardiac studies represent ~60% of total SPECT studies

While number of studies in the Tc99m market is declining 1%-3% per year, this decline is offset by price



PET-based studies and related use of isotopes gaining interest

Lantheus 2.0 Vision - Strategic Focus in Attractive Markets

Sustain and Accelerate Revenue Growth

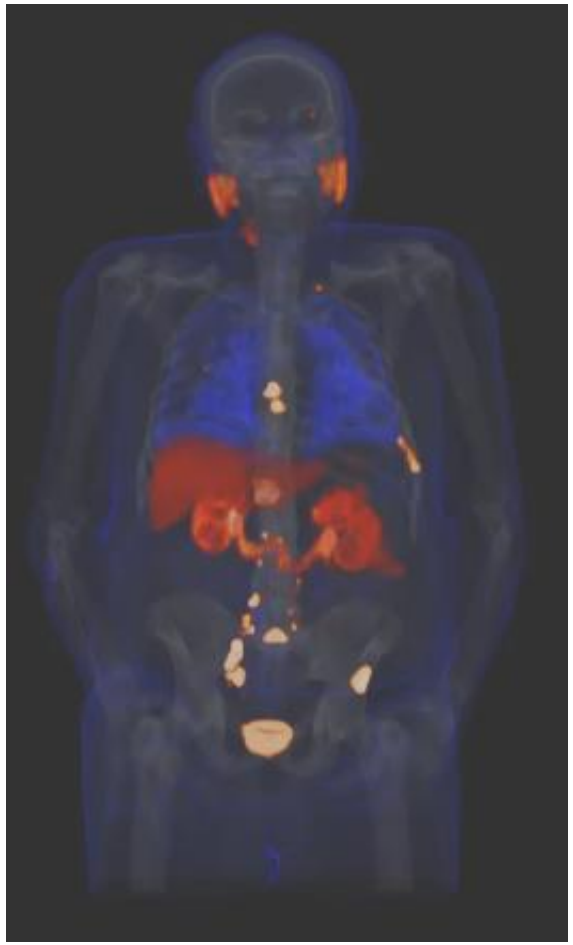
Diversified Portfolio of Diagnostics and Radiopharmaceutical Therapeutics

Attractive Margins

Asset Portfolio	Cardiac	Therapeutic Applications	Prostate	Neuroendocrine Tumors	Immuno-Oncology
Microbubbles	DEFINITY® (Perflutren Lipid Microsphere) INJECTABLE SUSPENSION	CEREVAST™ CARTHERA Advanced Brain Therapy Through Innovation			
Nuclear 2.0 Diagnostics	• flurpiridaz F 18		• PyL™ • 1404	• LMI 1195	NanoMab
Nuclear 2.0 Therapeutics			• 1095 • PSMA TTC	AZEDRA® iobenguane I 131 solution for intravenous use	
Complex Solutions			aBSI • aPromise		

PyL™ New Drug Application (NDA) Submitted to FDA on 9/30/20

- NDA includes a request for Priority Review
  - Priority Review: 6 months from time of acceptance, if granted
  - Standard Review: 10 months from time of acceptance
- Expect to receive notification from FDA confirming acceptance of the filing for review in early December 2020
- PyL (18F-DCFPyL) is a prostate specific membrane antigen (PSMA)-targeted positron emission tomography (PET) imaging agent for prostate cancer
- Management currently estimates that potential annual images at peak could reach 130,000[1]



- Enables visualization of localized prostate cancer, as well as both bone and soft tissue metastases
- PSMA is highly specific to prostate cancer cells, not confounded by degenerative or inflammatory conditions
- Identified more lesions than conventional imaging
- Attractive efficacy and safety profile
- Administered in ~3,500 patients with prostate cancer globally
  - 2 pivotal studies (OSPREY and CONDOR, N~600)
  - Company- or investigator-sponsored studies (N~900)
  - Clinical use reported in the literature (N~2,000)

1 - Management estimate is based on biochemical recurrence (BCR) incidence of approximately 50,000 men per year plus additional opportunities for scans for men in the prevalent prostate cancer population. Sources: National Comprehensive Cancer Network (NCCN) Guidelines; U.S. Preventive Services (USPSTF) Task Force Guidelines; Cancer.org; CDC.gov; Seer.cancer.gov; New England Journal of Medicine, Volume 377, July 2017, Pages 352-360; New England Journal of Medicine, Volume 373, August 2015, Pages 737-746; PLOS One, Volume 10, Issue 10, October 2015; European Urology, Volume 71, Issue 2, February 2017, Pages 151-154; Therapeutic Advances in Urology, Volume 7, Issue 2, August 2015, Pages 194–202; Primary Market Research.

AZEDRA: The First and Only FDA-Approved Treatment for PPGL*

AZEDRA®
iobenguane I 131 injection for intravenous use

First and only FDA-approved treatment for adults and pediatric patients 12 years and older with iobenguane scan positive, unresectable, locally advanced or metastatic pheochromocytoma or paraganglioma who require systemic anticancer therapy

Strategies to increase AZEDRA demand and pull through

- Increase product awareness and patient demand
- Ensure manufacturing capacity matches increasing product demand

* Pheochromocytoma and Paraganglioma

RELISTOR – Steady Royalty Flow

- Only pharmacotherapy available in oral and subcutaneous (SC) formulations to treat opioid-induced constipation (OIC) in adults with chronic pain – targeted action treats the cause of OIC
- Licensed to and marketed by Bausch Health
  - 8 Orange Book listed patents for SC; the longest of which expires in 2030
  - 9 Orange Book listed patents for tablets; the longest of which expires in 2031
- Attractive Royalty Flow
  - Royalty scale based on worldwide net sales, ranging from 15%–19%
  - Sales milestones totaling up to $190 MM, including $15 MM on first $150 MM in U.S. net sales
  - Entitled to receive 60% of net revenues received by Bausch Health from ex-U.S. sub-licensees
- Royalty-backed non-recourse agreement with Healthcare Royalty Partners

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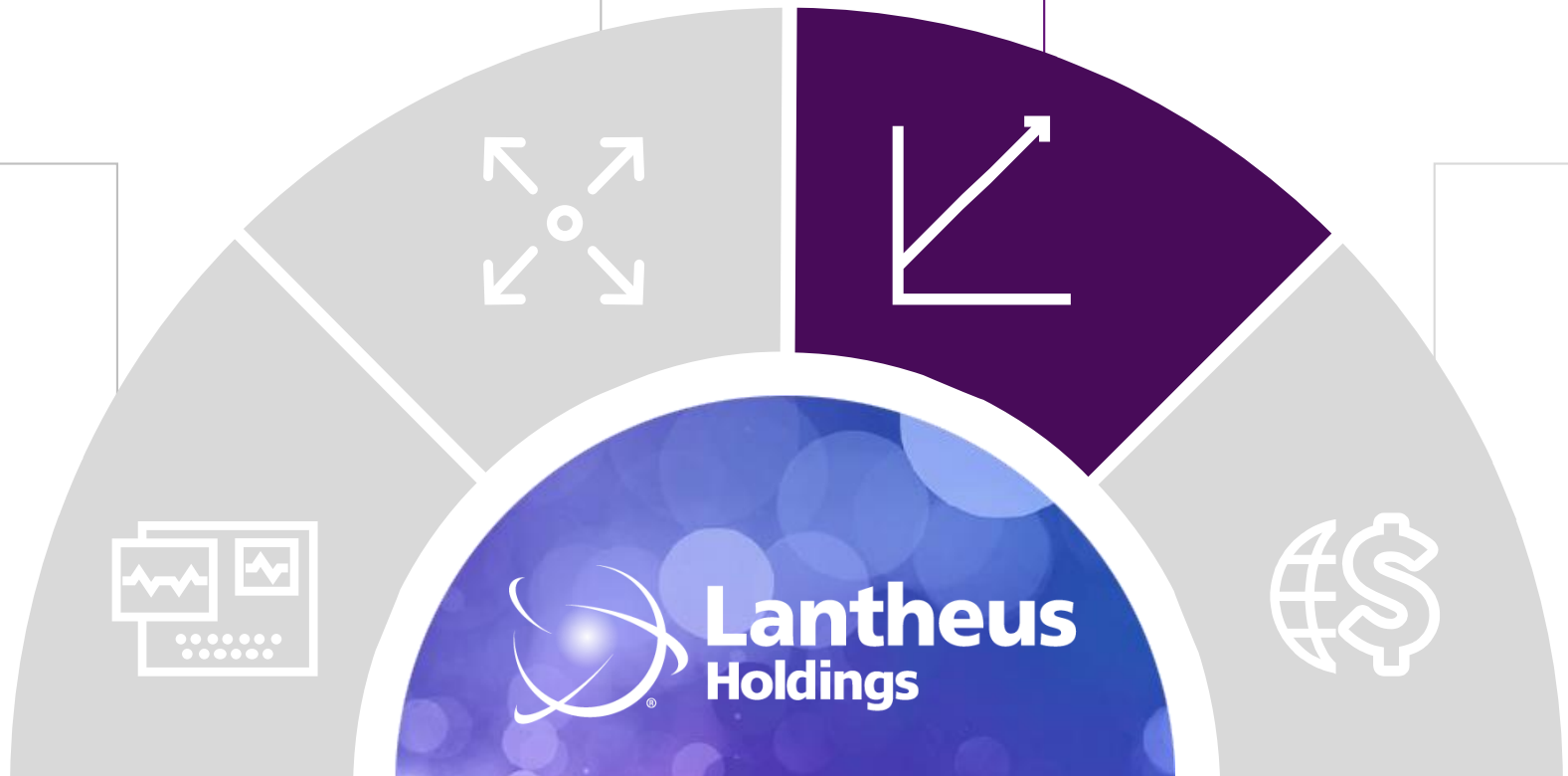
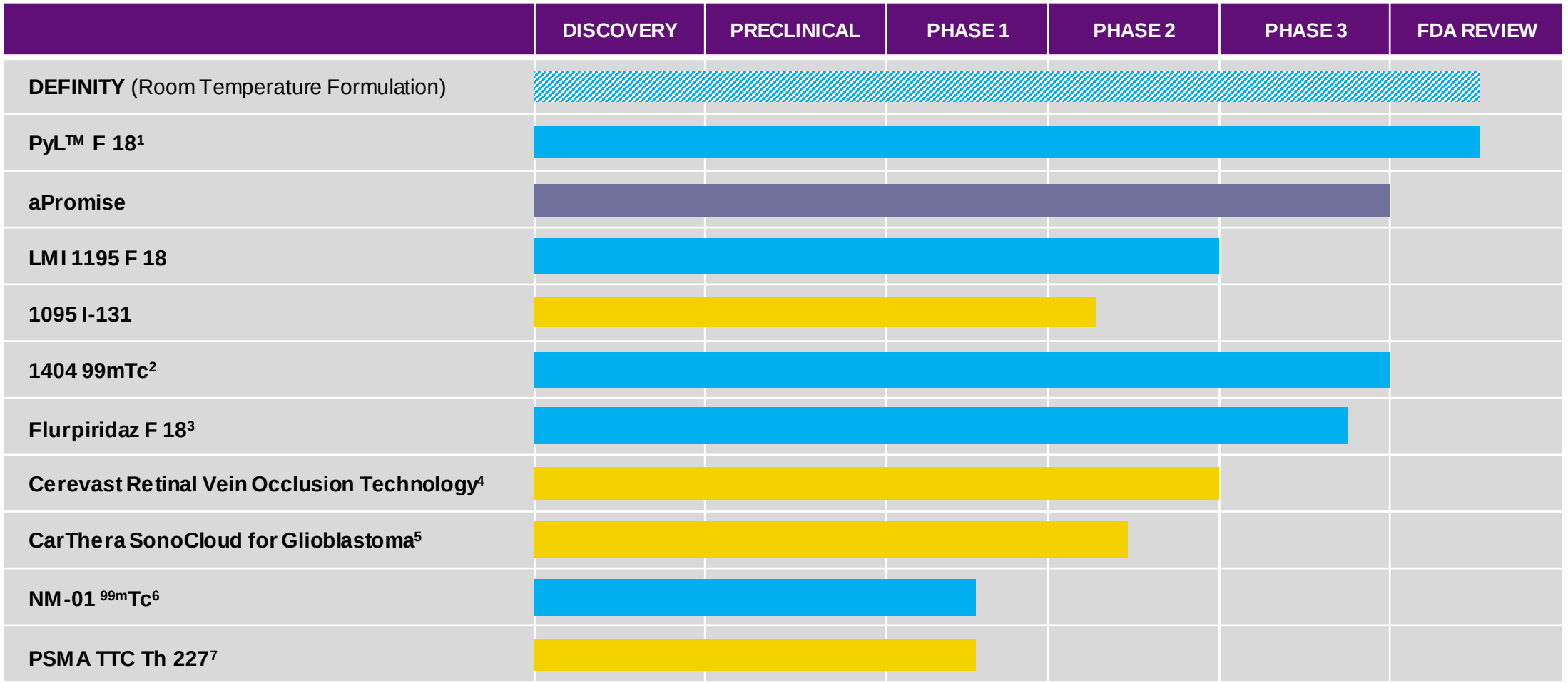


Robust Pipeline with Clear Value Drivers



NCE: New Chemical Entity; NBE New Biologic Entity.
[1] Lantheus developing in U.S.; [2] Licensed in Europe by ROTOP; [3] GE Healthcare is conducting the second phase 3 study; [4] Clinical development program conducted by Cerevast; [5] Clinical development program conducted by CarThera; [6] Ongoing Phase 1 clinical development conducted by NanoMab; [7] Clinical development program conducted by Bayer.

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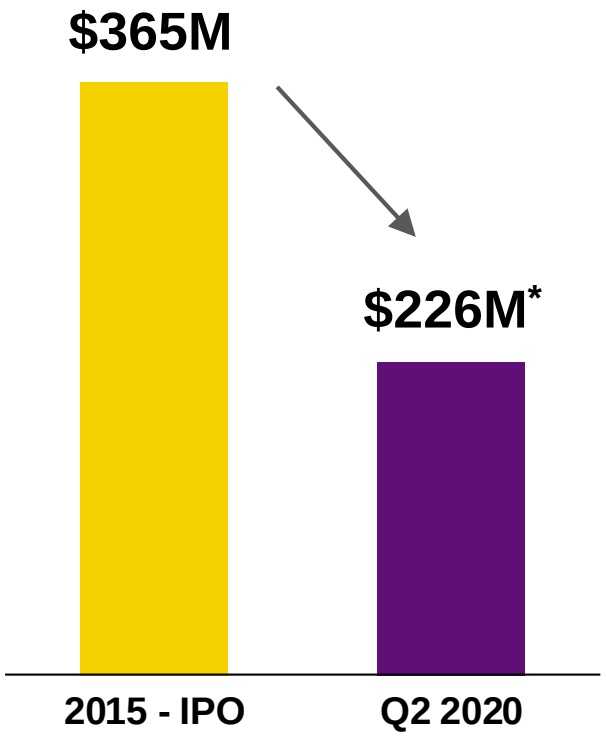
Strong Balance Sheet and Financial Flexibility

Decline in Debt



Strong Balance Sheet
(Q2 2020)

3.1x
Net Leverage

Resources
(Q2 2020)

Cash on hand	**$90M**
Available revolving credit	**$200M**

* Includes non-recourse RELSITOR loan.

Integration Milestones On-Track

92

Employees onboarded as of closing

90

Strategic & tactical goals by year end 2020

$4.6M

Synergies captured in first 6 months

Accelerating Growth From a Position of Strength

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Appendix

OSPREY and CONDOR: Safety of 18F-DCFPyL in All Subjects

Preferred Term	All Subjects N=593 n (%)
Any treatment-emergent Adverse Event	30 (5.1)
Headache	9 (1.5)
Dysgeusia	9 (1.3)
Fatigue	4 (0.7)
Dizziness	1 (0.2)
Hyperaesthesia	1 (0.2)
Migraine	1 (0.2)
Visual field defect	1 (0.2)
Application site rash	1 (0.2)
Chest discomfort	1 (0.2)
Feeling abnormal	1 (0.2)
Injection site pain	1 (0.2)
Arthralgia	1 (0.2)
Muscular weakness	1 (0.2)
Pain in extremity	1 (0.2)
Rash	1 (0.2)
Dry skin	1 (0.2)
Rash generalized	1 (0.2)
Dehydration	1 (0.2)
Dysuria	1 (0.2)
Vertigo	1 (0.2)
Hypersensitivity	1 (0.2)
Disorientation	1 (0.2)

- 30 (5.1%) patients experienced at least one TEAE
- The most frequently reported AEs (>0.5%) were headache, dysgeusia, and fatigue
- Hypersensitivity reaction was the single drug related Grade 3 AE reported in one patient with significant history of allergic reactions

Proven Management Team With Deep Industry Expertise

Mary Anne Heino

President and Chief Executive Officer

janssen · centocor inc · ANGELINI · labopharm

Mike Duffy

SVP — Law and Public Policy, General Counsel

point THERAPEUTICS · ROPES & GRAY

Istvan Molnar, M.D.

Chief Medical Officer

Fusion · BAYER · merrimack

Robert Marshall

Chief Financial Officer and Treasurer

ZIMMER BIOMET Your progress. Our promise.® · BROWN & WILLIAMSON TOBACCO

Paul Blanchfield

Chief Commercial Officer

Takeda · Shire · McKinsey&Company

Carol Walker

SVP — Quality

nova biomedical · SIEMENS · Bayer Diagnostics · intelligent MD

John Bolla

Chief Operations Officer

gsk GlaxoSmithKline

Etienne Montagut

SVP — Corporate Development

GE Healthcare · IPSEN Innovation for patient care

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