

On January 8, 2020, Lantheus Holdings, Inc. made available the following slides to its investors.



Lantheus
Holdings

CJS Investor Conference

January 2020



Important Information For Investors And Stockholders

This document does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to appropriate registration or qualification under the securities laws of such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the U.S. Securities Act of 1933, as amended.

In connection with the proposed transaction, Lantheus Holdings filed with the Securities and Exchange Commission ("SEC") a registration statement on Form S-4 on November 12, 2019 that includes a joint proxy statement of Lantheus Holdings and Progenics that also constitutes a preliminary prospectus of Lantheus Holdings. The registration statement has not yet become effective. After the registration statement is declared effective by the SEC, a definitive joint proxy statement/prospectus will be mailed to stockholders of Lantheus Holdings and Progenics. INVESTORS AND SECURITY HOLDERS OF LANTHEUS HOLDINGS AND PROGENICS ARE STRONGLY ENCOURAGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS AND OTHER DOCUMENTS THAT ARE FILED OR WILL BE FILED WITH THE SEC CAREFULLY AND IN THEIR ENTIRETY BECAUSE THEY CONTAIN OR WILL CONTAIN IMPORTANT INFORMATION. Investors and security holders are able to obtain free copies of the registration statement and the joint proxy statement/prospectus and other documents filed with the SEC by Lantheus Holdings or Progenics through the website maintained by the SEC at <https://www.sec.gov>.

Copies of the documents filed with the SEC by Lantheus Holdings are or will also be available free of charge on Lantheus Holdings' website at <https://www.lantheus.com/> or by contacting Lantheus Holdings' Investor Relations Department by email at ir@lantheus.com or by phone at (978) 671-8001. Copies of the documents filed with the SEC by Progenics are or will also be available free of charge on Progenics' internet website at <https://www.progenics.com/> or by contacting Progenics' Investor Relations Department by email at mdowns@progenics.com or by phone at (646) 975-2533.

Certain Information Regarding Participants

Lantheus Holdings, Progenics, and their respective directors and executive officers may be considered participants in the solicitation of proxies in connection with the proposed transaction. Information about the directors and executive officers of Lantheus Holdings is set forth in its Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 20, 2019, its definitive proxy statement for its 2019 annual meeting of stockholders, which was filed with the SEC on March 15, 2019, and its Current Report on Form 8-K, which was filed with the SEC on March 25, 2019. Other information regarding the participants of Lantheus Holdings in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint proxy statement/prospectus and other relevant materials to be filed with the SEC regarding the proposed transaction when they become available.

Information about the directors and executive officers of Progenics is set forth in its Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on March 15, 2019 and amended on April 30, 2019, and its definitive proxy statement for its 2019 annual meeting of stockholders, which was filed with the SEC on May 30, 2019. Other information regarding the participants of Progenics in the proxy solicitations and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint proxy statement/prospectus and other relevant materials to be filed with the SEC regarding the proposed transaction when they become available. You may obtain these documents (when they become available) free of charge through the website maintained by the SEC at <https://www.sec.gov> and from Investor Relations at Lantheus Holdings or Progenics as described above.



Cautionary Statement Regarding Forward-Looking Statements

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 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. Such statements are based upon current plans, estimates and expectations that are subject to various risks and uncertainties. The inclusion of forward-looking statements should not be regarded as a representation that such plans, estimates and expectations will be achieved. Words such as “anticipate,” “expect,” “project,” “intend,” “believe,” “may,” “will,” “should,” “plan,” “could,” “target,” “contemplate,” “estimate,” “predict,” “potential,” “opportunity,” “creates” and words and terms of similar substance used in connection with any discussion of future plans, actions or events identify forward-looking statements. All statements, other than historical facts, including the expected timing of the closing of the merger; the ability of the parties to complete the merger considering the various closing conditions; the expected benefits of the merger, such as efficiencies, cost savings, synergies, revenue growth, creating shareholder value, growth potential, market profile, enhanced competitive position, and financial strength and flexibility; the competitive ability and position of the combined company; and any assumptions underlying any of the foregoing, are forward-looking statements. Important factors that could cause actual results to differ materially from Lantheus Holdings’ and Progenics’ plans, estimates or expectations could include, but are not limited to: (i) Lantheus Holdings or Progenics may be unable to obtain stockholder approval as required for the merger; (ii) conditions to the closing of the merger may not be satisfied; (iii) the merger may involve unexpected costs, liabilities or delays; (iv) the effect of the announcement of the merger on the ability of Lantheus Holdings or Progenics to retain and hire key personnel and maintain relationships with customers, suppliers and others with whom Lantheus Holdings or Progenics does business, or on Lantheus Holdings’ or Progenics’ operating results and business generally; (v) Lantheus Holdings’ or Progenics’ respective businesses may suffer as a result of uncertainty surrounding the merger and disruption of management’s attention due to the merger; (vi) the outcome of any legal proceedings related to the merger; (vii) Lantheus Holdings or Progenics may be adversely affected by other economic, business, and/or competitive factors; (viii) the occurrence of any event, change or other circumstances that could give rise to the termination of the merger agreement; (ix) risks that the merger disrupts current plans and operations and the potential difficulties in employee retention as a result of the merger; (x) the risk that Lantheus Holdings or Progenics may be unable to obtain governmental and regulatory approvals required for the transaction, or that required governmental and regulatory approvals may delay the transaction or result in the imposition of conditions that could reduce the anticipated benefits from the proposed transaction or cause the parties to abandon the proposed transaction; (xi) risks that the anticipated benefits of the merger or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected; (xii) the impact of legislative, regulatory, competitive and technological changes; (xiii) expectations for future clinical trials, the timing and potential outcomes of clinical studies and interactions with regulatory authorities; and (xiv) other risks to the consummation of the merger, including the risk that the merger will not be consummated within the expected time period or at all. Additional factors that may affect the future results of Lantheus Holdings and Progenics are set forth in their respective filings with the SEC, including each of Lantheus Holdings’ and Progenics’ most recently filed Annual Report on Form 10-K, subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the SEC, which are available on the SEC’s website at www.sec.gov. Readers are urged to consider these factors carefully in evaluating these forward-looking statements, and not to place undue reliance on any forward-looking statements. Readers should also carefully review the risk factors described in other documents that Lantheus Holdings and Progenics file from time to time with the SEC. The forward-looking statements in this document speak only as of the date of these materials. Except as required by law, Lantheus Holdings and Progenics assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.



Company Overview

- Global leader in the development, manufacture and commercialization of innovative medical diagnostics
- Portfolio of precision diagnostic products that help healthcare professionals identify disease and improve patient management
- DEFINITY® is the leading product in the ultrasound contrast market globally
 - Developing expanded indication (LVEF) and room temperature (RT) formulation
 - Pursuing additional applications of microbubbles outside of traditional contrast imaging
- Recognized innovator in the field of radiopharmaceutical diagnostics
 - Original innovator with first planar and SPECT radiopharmaceutical products, currently developing next-generation PET products

#1 in Ultrasound Contrast Agents

Innovating in Microbubble applications

Leader in Radiopharmaceuticals

Pioneer in Radiopharmaceutical Diagnostics

Dynamic Pipeline



Across Microbubble and Radiopharmaceuticals

Operational Excellence

Manufacturing, Supply Chain and Commercial Expertise

Leading Products and Market Share



Product Category	Revenue 2018*	% of Revenue*	Application	Key Product / U.S. Market Share**	Growth Rate***
 <p>Ultrasound Contrast Imaging Agents</p>	\$183M	53%	Injectable agent for echocardiograms	DEFINITY / ~80%	~18%
 <p>Radiopharmaceuticals and Other</p>	\$160M	47%	Wide range of diagnostic imaging for cardiac perfusion, pulmonary function, cerebral blood flow, cancers	TechneLite / ~33%	Overall stable

* Based on 2018 Worldwide Revenue (\$ in millions)

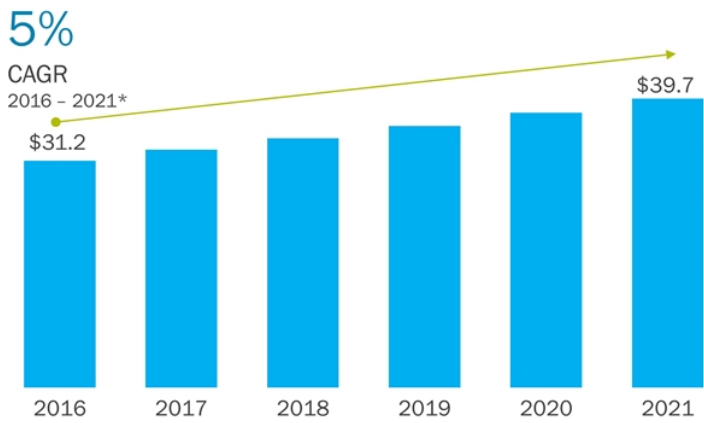
** Source for DEFINITY market share: AMR Echocardiography Monthly Monitor, December 2018. Source for nuclear market share: LMI internal estimates.

*** 3-year CAGR

Large, Growing Global Markets

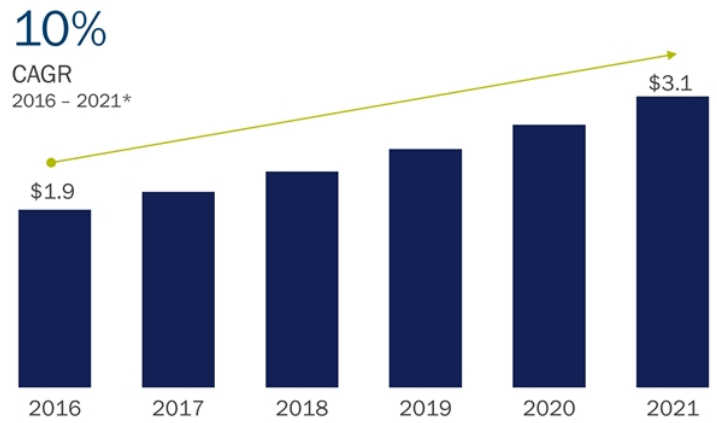


Global Medical Imaging Market (\$B)



Source: TechNavio, January 2017

Global Radiopharmaceuticals Market (\$B)

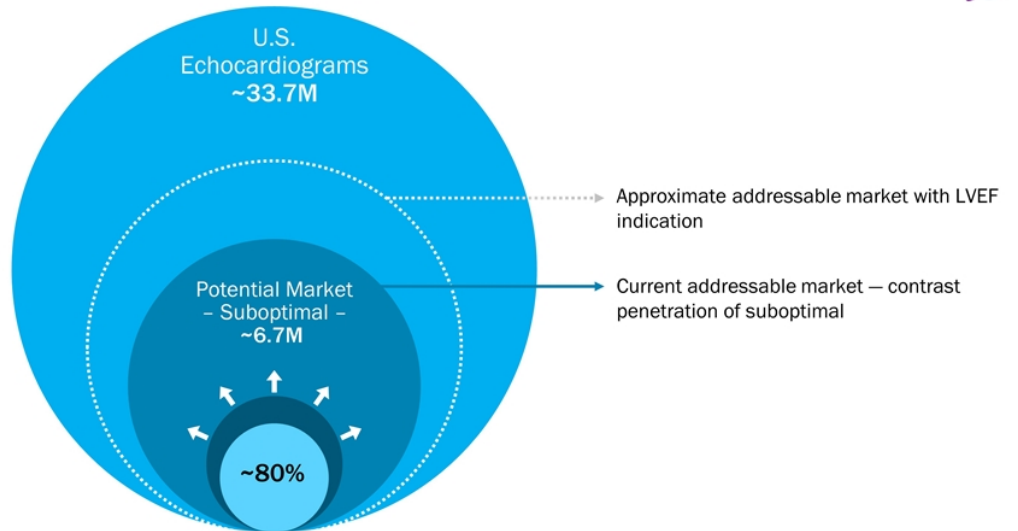


Source: TechNavio, April 2016

* 5-year CAGR

Large Echocardiography Market Opportunity – in the U.S. Alone

2% Annual Growth Rate in Total Echocardiograms



Currently, Lantheus has ~80% market share of contrast imaging agent use.

Lantheus 2.0 Areas of Strategic Focus



Lantheus 2.0 Vision	A Leader in Microbubbles and Radiopharmaceuticals		Pro Forma Product Portfolio	
<p>✓ Sustain and Accelerate Revenue Growth</p>	<p>Microbubbles</p>	<ul style="list-style-type: none"> Microbubble expansion strategy Assessment of potential direct adjacencies 	<p>DEFINITY Perfloran Lipid Microspheres MULTI-MODAL APPROACH</p> <p>Flurpiridaz</p> <p>Cardiac</p>	<p>CEREVAST CARTHERA Multi-Therapeutic Applications</p> <p>NanoMab NM-01</p> <p>I/O</p>
<p>✓ Diversified Portfolio of Diagnostics and Radiopharmaceutical Therapeutics</p>	<p>Nuclear 2.0 Diagnostics</p>	<ul style="list-style-type: none"> Fast growing PET segment driving precision diagnosis Increasing demand for nuclear imaging tracers and new isotopes in drug development Innovative use of AI to enhance diagnostic accuracy and prognostics 	<p>LMI-1195</p> <p>AZEDRA iobenguane I 131 solution for injection</p> <p>NET</p>	<p>PyL AI 1095</p> <p>Prostate</p>
<p>✓ Attractive Margins</p>	<p>Nuclear 2.0 Theranostics</p>	<ul style="list-style-type: none"> Use of nuclear medicine to diagnose and treat targeted diseases in oncology and complex diseases Precision diagnostics, enhanced by AI, guide targeted nuclear medicine therapy in oncology and complex diseases 		
<p>✓ Global Reach</p>				

Note: Assumes closing of the merger with Progenics

Proposed Acquisition of Progenics: Compelling Strategic Rationale



Robust portfolio and pipeline of precision diagnostic and therapeutic products

Driving strategic pipeline investments to capitalize on market opportunities and maximize returns

Sustainable and diversified revenue growth with focus on commercial execution excellence

Attractive financial profile and strengthened cash flow generation, with attention to cost synergy opportunities that support enhanced stockholder returns

Proven leadership with strong commercial, operational and financial expertise; aligned with stockholder interests

Transaction Summary



Transaction Structure	<ul style="list-style-type: none">▪ Lantheus Holdings to acquire 100% of Progenics' common shares structured in a tax-free all-stock transaction▪ Progenics stockholders to receive 0.2502 Lantheus Holdings shares for each Progenics share▪ Implies 21.5% premium to Progenics' 30-day volume weighted average closing stock price for the period ended October 1, 2019
Ownership	<ul style="list-style-type: none">▪ Lantheus stockholders to own approximately 65% of the combined company▪ Progenics stockholders to own approximately 35% of the combined company
Governance & Leadership	<ul style="list-style-type: none">▪ Mary Anne Heino to remain Chief Executive Officer, Robert J. Marshall Jr. to remain Chief Financial Officer, and John Bolla to remain Chief Operations Officer▪ Following the closing, Bradley Campbell, currently a member of Progenics' Board of Directors, will be added to the Board of Directors of Lantheus Holdings▪ Continue to align Lantheus' compensation / accountability policies and programs with stockholders' interests
Compelling Financial Rationale	<ul style="list-style-type: none">▪ Diversifies revenue streams with additional marketed products, bolsters cash flow generation and positions company for sustainable long-term growth▪ Approximately \$20 million in run-rate cost savings by 2022 related primarily to public company costs and G&A expense▪ Accretive to Adjusted and Reported EPS by 2022 and 2023, respectively
Timing and Approvals	<ul style="list-style-type: none">▪ Transaction unanimously approved by Board of Directors of both companies▪ Closing expected in the first quarter of 2020▪ Transaction close subject to satisfaction of customary closing conditions, including receipt of regulatory and Lantheus and Progenics stockholder approvals

Well-balanced Portfolio of Marketed Assets Spanning Diagnostics to Therapeutics



Precision Diagnostics



Xenon Xe 133 Gas



DEFINITY

Benefits from unparalleled market and brand position
Dedicated salesforce that drives advocacy and awareness
Long-standing relationships with sonographers/echocardiologists
New formulation has patent protection to 2035

Radiopharmaceuticals

Cardiolite recognized as most widely-used diagnostic product launched in the U.S. to date
Wide range of diagnostic imaging for cardiac perfusion, pulmonary function, and cerebral blood flow
Radiopharmaceutical business requires unique expertise including complex supply chain logistics

Oncology and Complex Products & Services



AZEDRA

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

RELISTOR

Only treatment with oral and subcutaneous formulations to treat opioid-induced constipation (OIC) in adults with chronic pain – targeted action treats the cause of OIC
Licensed to Bausch Health

QUADRAMET

Injectable radiopharmaceutical primarily used to treat pain associated with osteoblastic and mixed bone metastases confirmed on radionuclide bone scan

Automated Bone Scan Index

Software as a medical device, is designed to quantify the disease burden in bone scans of metastatic prostate cancer patients

Complementary products position the combined company to better serve patients

Robust Late-Stage Combined Pipeline with Clear Value Drivers



	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	FILING
DEFINITY <i>Octafluoropropane - Left Ventricular Ejection Fraction</i>	Life Cycle Management					
DEFINITY <i>Octafluoropropane - Room Temperature Formulation</i>	Life Cycle Management					
Flurpiridaz F 18 <i>PET Myocardial Perfusion Imaging</i>	NCE Precision Diagnostic					
LMI 1195 <i>Flubrobenguane - Neuroendocrine Tumors in Pediatric / Adult Populations</i>	NCE Precision Diagnostic					
Cerevast Retinal Vein Occlusion Technology <i>Proprietary therapeutic ultrasound technology - Microbubble Franchise</i>	NCE Therapeutic					
NM-01 ^{99m}Tc <i>Anti-PD-L1 Biomarker Single-Domain Antibody</i>	NCE Precision Diagnostic					
PyL™ F 18 <i>PSMA-targeted PET / CT Imaging Agent</i>	NCE Precision Diagnostic					
1095 I-131 <i>PSMA-targeted Small Molecule Therapeutic</i>	NCE Therapeutic					
1404 ^{99m}Tc <i>PSMA-targeted SPECT / CT Imaging Agent</i>	NCE Precision Diagnostic					
PSMA TTC Th 227 <i>PSMA-targeted Conjugate Therapeutic</i>	NCE Therapeutic					
PSMA AI <i>Automated reading of PSMA images using AI</i>	Digital Solution					

Development Partners
<ul style="list-style-type: none"> Lantheus developing
<ul style="list-style-type: none"> Lantheus developing
<ul style="list-style-type: none"> Lantheus in partnership with GE Healthcare¹
<ul style="list-style-type: none"> Lantheus developing
<ul style="list-style-type: none"> Lantheus partnership with Cerevast²
<ul style="list-style-type: none"> Lantheus partnership with NanoMab³
<ul style="list-style-type: none"> Progenics developing Licensed in Europe by Curium
<ul style="list-style-type: none"> Progenics developing
<ul style="list-style-type: none"> Licensed in Europe by ROTOP
<ul style="list-style-type: none"> Progenics partnership with Bayer⁴
<ul style="list-style-type: none"> Progenics developing

Legend: ■ NCE Precision Diagnostic ■ NCE Therapeutic
■ Life Cycle Management ■ Digital Solution

1. GE Healthcare is conducting the second phase 3 study.
2. Clinical development program conducted by Cerevast.
3. Ongoing Phase 1 clinical development conducted by NanoMab.
4. Clinical development program conducted by Bayer.

NCE: New Chemical Entity



Gross Margins	<ul style="list-style-type: none">▪ Gross margin improvement potential through enhanced revenue growth and realizable cost savings and efficiencies▪ Additional longer-term opportunities from diversified revenue / product mix
EPS	<ul style="list-style-type: none">▪ Complementary portfolio of assets and realizable cost savings – expect to achieve approximately \$20 million in run-rate cost savings by 2022▪ Accretion expected to be achieved in reasonable timeframe as high-value pipeline is commercialized▪ Accretive to Adjusted and Reported EPS by 2022 and 2023, respectively
Cash Flow	<ul style="list-style-type: none">▪ Enhanced free cash flow with improved top line growth, operational execution and expected synergy opportunities▪ Strong liquidity position supports disciplined capital deployment
Pro Forma ROIC	<ul style="list-style-type: none">▪ Strong and increasingly attractive ROIC metrics▪ ROIC reaching double digits in year 2 and $\geq 20\%$ thereafter
Balance Sheet	<ul style="list-style-type: none">▪ Committed to returning to a leverage ratio of approximately 2.5x – 1.5x within two years▪ Strong balance sheet provides financial flexibility



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