

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

Lantheus Holdings, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

516544103

(CUSIP Number)

09/30/2025

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- ☒ Rule 13d-1(b)
- ☐ Rule 13d-1(c)
- ☐ Rule 13d-1(d)

SCHEDULE 13G

CUSIP No. 516544103

	Names of Reporting Persons
1	Morgan Stanley
	Check the appropriate box if a member of a Group (see instructions)
2	<div><input type="checkbox"/> (a)</div> <div><input type="checkbox"/> (b)</div>
3	Sec Use Only
	Citizenship or Place of Organization
4	DELAWARE
Number of Shares	5 Sole Voting Power

Beneficially	0.00
Owned by	Shared Voting Power
Each	6
Reporting	3,732,420.00
Person	Sole Dispositive Power
With:	7
	0.00
	Shared Dispositive
	8 Power
	3,777,712.00
9	Aggregate Amount Beneficially Owned by Each Reporting Person
	3,777,712.00
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)
	<input type="checkbox"/>
11	Percent of class represented by amount in row (9)
	5.6 %
12	Type of Reporting Person (See Instructions)
	HC, CO

SCHEDULE 13G

CUSIP No. 516544103

1	Names of Reporting Persons
	Morgan Stanley Capital Services LLC
	Check the appropriate box if a member of a Group (see instructions)
2	<input type="checkbox"/> (a)
	<input type="checkbox"/> (b)
3	Sec Use Only
4	Citizenship or Place of Organization
	DELAWARE
	Sole Voting Power
5	0.00
Number of	Shared Voting Power
Shares	6
Beneficially	3,552,266.00
Owned by	Sole Dispositive Power
Each	7
Reporting	0.00
Person	Shared Dispositive
With:	8 Power
	3,552,266.00
9	Aggregate Amount Beneficially Owned by Each Reporting Person
	3,552,266.00
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)
	<input type="checkbox"/>
11	Percent of class represented by amount in row (9)

5.2 %

Type of Reporting Person (See Instructions)

12

BD, CO

SCHEDULE 13G

Item 1.

Name of issuer:

(a)

Lantheus Holdings, Inc.

Address of issuer's principal executive offices:

(b)

331 TREBLE COVE ROAD, NORTH BILLERICA, MA, 01862

Item 2.

Name of person filing:

(a)

1: Morgan Stanley 2: Morgan Stanley Capital Services LLC

Address or principal business office or, if none, residence:

(b)

1: 1585 Broadway, New York, NY 10036 ;2: 1585 Broadway, New York, NY 10036

Citizenship:

(c)

1: Delaware 2: Delaware

Title of class of securities:

(d)

Common Stock

CUSIP No.:

(e)

516544103

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

(a)

☒ Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);

(b)

☐ Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);

(c)

☐ Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);

(d)

☐ Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);

(e)

☐ An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);

(f)

☐ An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);

(g)

☒ A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);

(h)

☐ A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);

(i)

☐ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);

(j)

☐ A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J). If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

(k)

☐ Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K).

Item 4. Ownership

Amount beneficially owned:

(a)

See the response(s) to Item 9 on the attached cover page(s).

Percent of class:

(b)

5.6 %

(c)

Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote:

See the response(s) to Item 5 on the attached cover page(s).

(ii) Shared power to vote or to direct the vote:

See the response(s) to Item 6 on the attached cover page(s).

(iii) Sole power to dispose or to direct the disposition of:

See the response(s) to Item 7 on the attached cover page(s).

(iv) Shared power to dispose or to direct the disposition of:

See the response(s) to Item 8 on the attached cover page(s).

Item 5. Ownership of 5 Percent or Less of a Class.

Item 6. Ownership of more than 5 Percent on Behalf of Another Person.

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

If a parent holding company has filed this schedule, pursuant to Rule 13d-1(b)(ii)(G), so indicate under Item 3(g) and attach an exhibit stating the identity and the Item 3 classification of the relevant subsidiary. If a parent holding company has filed this schedule pursuant to Rule 13d-1(c) or Rule 13d-1(d), attach an exhibit stating the identification of the relevant subsidiary.

See Exhibit 99.2

Item 8. Identification and Classification of Members of the Group.

Not Applicable

Item 9. Notice of Dissolution of Group.

Not Applicable

Item 10. Certifications:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under ?? 240.14a-11. * In Accordance with the Securities and Exchange Commission Release No. 34-39538 (January 12, 1998) (the "Release"), this filing reflects the securities beneficially owned, or that may be deemed to be beneficially owned, by certain operating units (collectively, the "MS Reporting Units") of Morgan Stanley and its subsidiaries and affiliates (collectively, "MS"). This filing does not reflect securities, if any, beneficially owned by any operating units of MS whose ownership of securities is disaggregated from that of the MS Reporting Units in accordance with the Release.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Morgan Stanley

Signature: Chris O'Hara

Name/Title: Authorized Signatory, Morgan Stanley

Date: 11/07/2025

Morgan Stanley Capital Services LLC

Signature: Chris O'Hara

Name/Title: Authorized Signatory, Morgan Stanley Capital Services LLC

Date: 11/07/2025

Exhibit Information

EXHIBIT NO. 99.1 TO SCHEDULE 13G
JOINT FILING AGREEMENT

November 07, 2025

MORGAN STANLEY and Morgan Stanley Capital Services LLC hereby
agree that, unless differentiated, this Schedule 13G is filed on
behalf of each of the parties.

MORGAN STANLEY

BY: /s/ Chris O'Hara

Chris O'Hara/Authorized Signatory, Morgan Stanley

Morgan Stanley Capital Services LLC

BY: /s/ Chris O'Hara

Chris O'Hara/Authorized Signatory,
Morgan Stanley Capital Services LLC

* Attention. Intentional misstatements or omissions of fact constitute federal
criminal violations (see 18 U.S.C. 1001).

EXHIBIT NO. 99.2

ITEM 7 INFORMATION

The securities being reported on by Morgan Stanley as a parent holding company are owned, or may be deemed to be beneficially owned, by Morgan Stanley Capital Services LLC, a wholly-owned subsidiary of Morgan Stanley.