

# SECURITIES AND EXCHANGE COMMISSION

## Washington, D.C. 20549

### SCHEDULE 13D

Under the Securities Exchange Act of 1934

Shoulder Innovations, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

82537J108

(CUSIP Number)

Gilde Healthcare Holding B.V.  
Stadsplateau 36, Attention: Edwin de Graaf  
Utrecht, P7, 3521 AZ  
31 30 219 2565

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

08/01/2025

(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. ☐

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

### SCHEDULE 13D

CUSIP No. 82537J108

1	Name of reporting person Gilde Healthcare Holding B.V.
2	Check the appropriate box if a member of a Group (See Instructions) <input type="checkbox"/> (a) <input type="checkbox"/> (b)
3	SEC use only
4	Source of funds (See Instructions) WC

5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
6	Citizenship or place of organization NETHERLANDS	
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 2,380,482.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 2,380,482.00
11	Aggregate amount beneficially owned by each reporting person 2,380,482.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) <input type="checkbox"/>	
13	Percent of class represented by amount in Row (11) 11.8 %	
14	Type of Reporting Person (See Instructions) OO	

### SCHEDULE 13D

CUSIP No.	82537J108
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1	Name of reporting person Gilde Healthcare V Management B.V.
2	Check the appropriate box if a member of a Group (See Instructions) <input type="checkbox"/> (a) <input type="checkbox"/> (b)
3	SEC use only
4	Source of funds (See Instructions) AF
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6	Citizenship or place of organization NETHERLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 2,380,482.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 2,380,482.00
11	Aggregate amount beneficially owned by each reporting person 2,380,482.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) <input type="checkbox"/>	
13	Percent of class represented by amount in Row (11) 11.8 %	
14	Type of Reporting Person (See Instructions) OO	

### SCHEDULE 13D

CUSIP No.	82537J108
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1	Name of reporting person Cooperatieve Gilde Healthcare V U.A.
2	Check the appropriate box if a member of a Group (See Instructions) <input type="checkbox"/> (a) <input type="checkbox"/> (b)
3	SEC use only
4	Source of funds (See Instructions) AF
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6	Citizenship or place of organization NETHERLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 2,380,482.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 2,380,482.00
11	Aggregate amount beneficially owned by each reporting person 2,380,482.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) <input type="checkbox"/>	
13	Percent of class represented by amount in Row (11) 11.8 %	
14	Type of Reporting Person (See Instructions) OO	

### SCHEDULE 13D

CUSIP No.	82537J108
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1	Name of reporting person Manapouri B.V.
2	Check the appropriate box if a member of a Group (See Instructions) <input type="checkbox"/> (a) <input type="checkbox"/> (b)
3	SEC use only
4	Source of funds (See Instructions) AF
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6	Citizenship or place of organization NETHERLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 2,380,482.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 2,380,482.00
11	Aggregate amount beneficially owned by each reporting person 2,380,482.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) <input type="checkbox"/>	
13	Percent of class represented by amount in Row (11) 11.8 %	
14	Type of Reporting Person (See Instructions) OO	

### SCHEDULE 13D

CUSIP No.	82537J108
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1	Name of reporting person Martemanshurk B.V.
2	Check the appropriate box if a member of a Group (See Instructions) <input type="checkbox"/> (a) <input type="checkbox"/> (b)
3	SEC use only
4	Source of funds (See Instructions) AF
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6	Citizenship or place of organization NETHERLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 2,380,482.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 2,380,482.00
11	Aggregate amount beneficially owned by each reporting person 2,380,482.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) <input type="checkbox"/>	
13	Percent of class represented by amount in Row (11) 11.8 %	
14	Type of Reporting Person (See Instructions) OO	

## SCHEDULE 13D

### Item 1. Security and Issuer

(a) Title of Class of Securities:

Common Stock, \$0.001 par value per share

(b) Name of Issuer:

Shoulder Innovations, Inc.

(c) Address of Issuer's Principal Executive Offices:

1535 Steele Avenue SW, Suite B, Grand Rapids, MICHIGAN , 49507.

### Item 2. Identity and Background

(a) This Statement is being filed by Gilde Healthcare Holding B.V. ("GHH"), Gilde Healthcare V Management B.V. ("GHCVM"), and Cooperative Gilde Healthcare V U.A. ("Gilde Healthcare," and together with GHH and Gilde Healthcare, the "Reporting Entities"), the managing directors of GHH: Manapouri B.V. (of which Edwin de Graaf is the owner and managing director) and Martemanshurk B.V. (of which Pieter van der Meer is the owner and managing director) (together, the "Managing Directors"). The Reporting Entities and Managing Directors are collectively referred to as the "Reporting Persons." The agreement among the Reporting Persons to file jointly in accordance with the provisions of Rule 13d-1(k)(1) under the Act is attached hereto as Exhibit 99.1. Each Reporting Person disclaims beneficial ownership of all securities reported in this Schedule except to the extent of such Reporting Person's pecuniary interest therein, other than those securities reported herein as being held directly by such Reporting Person.

(b) The business address of the principal offices of each Reporting Person is Stadsplateau 36 P7, 3521 AZ Utrecht, The Netherlands.

(c) GHCVM manages and advises Gilde Healthcare and is owned by GHH. Gilde Healthcare makes venture capital investments in companies developing biotechnology, molecular diagnostics and medical technology products.

(d) During the past five years, none of the Reporting Persons have been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) None of the Reporting Persons are, nor during the last five years have been, a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) GHCVM, GHH, Manapouri B.V. and Martemanshurk B.V. are limited liability companies organized under Dutch law. Gilde Healthcare is a private equity investment fund organized under Dutch law.

### Item 3. Source and Amount of Funds or Other Consideration

From February 2023 and March 2023, Gilde Healthcare purchased an aggregate of 33,259,424 shares of the Issuer's Series D convertible preferred stock at an aggregate purchase price of \$18,000,000. In March 2025, Gilde Healthcare purchased an aggregate of 1

0,252,188 shares of the Issuer's Series E convertible preferred stock at an aggregate purchase price of \$6,999,998. On August 1, 2025, upon the closing of the Issuer's initial public offering of its Common Stock (the "Offering"), the Issuer's Series D and Series E convertible preferred stock automatically converted into shares of the Issuer's Common Stock at a rate of 1-for-0.052410901 (the "Conversion").

In addition, on August 1, 2025, in connection with the Offering, Gilde Healthcare purchased an additional 100,000 shares of Common Stock at a purchase price per share of \$15.00 and an aggregate purchase price of \$1,500,000 (the "Purchase"). Following the Conversion and the Purchase, Gilde Healthcare directly held an aggregate of 2,380,482 shares of Common Stock.

All shares of the capital stock of the Issuer purchased by Gilde have been purchased using investment funds provided to Gilde Healthcare. Unless noted above, no part of the purchase price was borrowed by any Reporting Person for the purpose of acquiring any securities discussed in this Item 3.

#### **Item 4. Purpose of Transaction**

The information set forth in Item 3 of this Statement is incorporated herein by reference. The Reporting Persons hold the securities of the Issuer for general investment purposes. The Reporting Persons may, from time to time, depending on prevailing market, economic and other conditions, acquire additional shares of Common Stock or other securities of the Issuer, dispose of any such securities, or engage in discussions with the Issuer concerning such acquisitions or dispositions or further investments in the Issuer. The Reporting Persons intend to review their investment in the Issuer on a continuing basis and, depending upon the price and availability of shares of Common Stock or other securities of the Issuer, subsequent developments affecting the Issuer, the Issuer's business and prospects, other investment and business opportunities available to the Reporting Persons, general stock market and economic conditions, tax considerations and other factors considered relevant, may decide at any time to increase or to decrease the size of their investment in the Issuer in the open market, in privately negotiated transactions, pursuant to 10b5-1 trading plans or otherwise.

Geoff Pardo, a partner at Gilde Healthcare, serves as a member of the board of directors of the Issuer. In addition, in his capacity as a director, Mr. Pardo may be entitled to receive cash compensation and equity compensation, including stock options, restricted stock units or other equity awards, pursuant to a plan or policy with regard to compensation of members of the board of directors of the Issuer.

Except as set forth above, the Reporting Persons have no present plans or intentions which would result in or relate to any of the transactions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

#### **Item 5. Interest in Securities of the Issuer**

- (a) According to the Issuer's Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission ("SEC") on August 1, 2025, there were 20,228,510 shares of Common Stock outstanding after the closing of the Offering.

Gilde Healthcare is the record holder of an aggregate of 2,380,482 shares of Common Stock, which represents beneficial ownership of approximately 11.8% of the outstanding shares of Common Stock after the closing of the Offering.

GHCVM, as the manager of Gilde Healthcare, has the power to vote and dispose of securities held by Gilde Healthcare and may be deemed to beneficially own the securities held of record by Gilde Healthcare. GHCVM is owned by GHH. The managing partners of GHH are Manapouri B.V. and Martemanshuk B.V.

As a result, each of the Reporting Persons may beneficially own an aggregate of 2,380,482 shares of Common Stock, or approximately 11.8% of the outstanding Common Stock.

- (b) Each Reporting Person has shared power to vote and dispose of 2,380,482 shares of Common Stock.
- (c) Except as reported in this Statement, none of the Reporting Persons has effected any transactions in the Issuer's securities within the past 60 days.
- (d) Only Gilde Healthcare has the right to receive dividends from, or the proceeds from, the sale of shares of the Issuer owned by Gilde Healthcare.
- (e) Not applicable.

#### **Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer**

The information set forth in Items 3 and 4 of this Statement is incorporated herein by reference. In connection with its purchase of shares of the Issuer's preferred stock, Gilde Healthcare and certain of the Issuer's other investors are party to a Fourth Amended and Restated Investors' Rights Agreement, dated March 6, 2025, with the Issuer (the "Investors' Rights Agreement"). The terms and provisions of the Investors' Rights Agreement are described more fully in the Issuer's Registration Statement on Form S-1 (File No. 333-288549) declared effective by the Commission on July 30, 2025 (the "Registration Statement"), and the above summary is qualified by reference to such description and the full text of the Investors' Rights Agreement, which is filed as Exhibit 99.2 to this Schedule and is incorporated herein by reference.

In connection with the Offering, Gilde Healthcare entered into a lock-up agreement, pursuant to which Gilde Healthcare agreed, subject to certain exceptions, not to sell, transfer or otherwise convey any of the Issuer's securities for 180 days following the date of the underwriting agreement for the Offering. The terms and provisions of such lock-up agreement are described more fully in the Registration Statement, and the above summary is qualified by reference to such description and the full text of the lock-up agreement, a form of which is filed as Exhibit 99.3 to this Schedule and is incorporated herein by reference.

Upon consummation of the Offering, the Issuer entered into an indemnification agreement with each of its directors, including Mr. Pardo. The indemnification agreement requires the Issuer, among other things, to indemnify Mr. Pardo against expenses and liabilities to the fullest extent permitted by law, and for related expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts incurred by Mr. Pardo in any action or proceeding arising out of his service as a director. The terms and provisions of the indemnification agreement are described more fully in the Registration Statement, and the above summary is qualified by reference to such description and the full text of the indemnification agreement, a form of which is filed as Exhibit 99.4 to this Schedule and is incorporated herein by reference.

Mr. Pardo, in his capacity as director, may be entitled to receive cash compensation and equity compensation, including stock options, restricted stock units or other equity awards pursuant to a plan or policy with regard to compensation of members of the board of directors of the Issuer.

#### **Item 7. Material to be Filed as Exhibits.**

Exhibit 99.1 - Joint Filing Agreement, dated August 5, 2025, by and among the Reporting Persons (filed herewith).

Exhibit 99.2 - Fourth Amended and Restated Investors' Rights Agreement, dated March 6, 2025, by and among the Issuer and the holders listed therein (filed as Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 as filed with the Commission on July 7, 2025 (SEC File No. 333-288549) and incorporated herein by reference).

Exhibit 99.3 - Form of Lock-Up Agreement (filed as Exhibit A to the Underwriting Agreement, which was filed as Exhibit 1.1 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on July 24, 2025 (SEC File No. 333-288549) and incorporated herein by reference).

Exhibit 99.4 - Form of Indemnification Agreement between the Issuer and its directors and officers (filed as Exhibit 10.14 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on July 24, 2025 (SEC File No. 333-288549) and incorporated herein by reference).

## **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.

### **Gilde Healthcare Holding B.V.**

**Signature:** /s/ Edwin de Graaf  
**Name/Title:** Edwin de Graaf/Managing Director  
**Date:** 08/05/2025

### **Gilde Healthcare V Management B.V.**

**Signature:** /s/ Edwin de Graaf  
**Name/Title:** Edwin de Graaf/Managing Director  
**Date:** 08/05/2025

### **Cooperatieve Gilde Healthcare V U.A.**

**Signature:** /s/ Edwin de Graaf  
**Name/Title:** By: GILDE HEALTHCARE V MANAGEMENT BV Its: Manager  
**Date:** 08/05/2025

**Signature:** /s/ Edwin de Graaf  
**Name/Title:** Edwin de Graaf/Managing Director  
**Date:** 08/05/2025

### **Manapouri B.V.**

**Signature:** /s/ Edwin de Graaf  
**Name/Title:** Edwin de Graaf/Managing Director  
**Date:** 08/05/2025

### **Martemanshurk B.V.**

**Signature:** /s/ Pieter van der Meer  
**Name/Title:** Pieter van der Meer/Managing Director  
**Date:** 08/05/2025