

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089 2022 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)
E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here.	☐

Part II	Basic Plan Information —enter all requested information
1a Name of plan AXCELIS TECHNOLOGIES, INC. LONG-TERM INVESTMENT PLAN	1b Three-digit plan number (PN) ▶ 001
	1c Effective date of plan 01/01/2001
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE BEVERLY, MA 01915-1053	2b Employer Identification Number (EIN) 34-1818596 2c Plan Sponsor's telephone number 978-787-4347 2d Business code (see instructions) 334410

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/02/2023	JILL FRENETTE
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2022)
v. 220413

3a Plan administrator's name and address ☒ Same as Plan Sponsor		3b Administrator's EIN
		3c Administrator's telephone number
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name		4b EIN 4d PN
5 Total number of participants at the beginning of the plan year		5 1109
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).		
a(1) Total number of active participants at the beginning of the plan year		6a(1) 761
a(2) Total number of active participants at the end of the plan year		6a(2) 958
b Retired or separated participants receiving benefits		6b 19
c Other retired or separated participants entitled to future benefits.....		6c 345
d Subtotal. Add lines 6a(2) , 6b , and 6c		6d 1322
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.		6e 5
f Total. Add lines 6d and 6e		6f 1327
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item).....		6g 1251
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested.....		6h 23
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)		7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 2E 2F 2G 2J 2K 2R 2T		
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:		
9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)		
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☐ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary	b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☐ 0 A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☒ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)	

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2022 Form M-1 annual report. If the plan was not required to file the 2022 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022	
A Name of plan AXCELIS TECHNOLOGIES, INC. LONG-TERM INVESTMENT PLAN	B Three-digit plan number (PN) ▶ 001
C Plan sponsor's name as shown on line 2a of Form 5500 AXCELIS TECHNOLOGIES, INC.	D Employer Identification Number (EIN) 34-1818596

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation	
TD AMERITRADE	200 S. 108TH AVENUE OMAHA, NE 68154

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

EMPOWER ANNUITY INSURANCE COMPANY O

8515 EAST ORCHARD ROAD
GREENWOOD VILLAGE, CO 80111

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
64 37 50	NONE	159072	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

TD AMERITRADE, INC.

200 S. 108TH AVENUE
OMAHA, NE 68154

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
33	NONE	475	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
TD AMERITRADE	59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
VANGUARD SPECIALIZED FUNDS 23-1945930	RANGE FROM 0-100 BPS	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
TD AMERITRADE	59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
VANGUARD STAR FUNDS 23-1945930	RANGE FROM 0-100 BPS	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
TD AMERITRADE	59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
HENNESSY FUNDS TRUST 68-0377264	RANGE FROM 0-100 BPS	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
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(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

SCHEDULE D (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration	DFE/Participating Plan Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
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For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan AXCELIS TECHNOLOGIES, INC. LONG-TERM INVESTMENT PLAN	B Three-digit plan number (PN) ►	001
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 AXCELIS TECHNOLOGIES, INC.	D Employer Identification Number (EIN) 34-1818596	

Part I	Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)
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a Name of MTIA, CCT, PSA, or 103-12 IE: PUTNAM STABLE VALUE FUND		
b Name of sponsor of entity listed in (a): PUTNAM FIDUCIARY TRUST COMPANY		
c EIN-PN 04-3159710-202	d Entity code C	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 24369157
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
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plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>		
A Name of plan <u>AXCELIS TECHNOLOGIES, INC. LONG-TERM INVESTMENT PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>AXCELIS TECHNOLOGIES, INC.</u>	D Employer Identification Number (EIN) <u>34-1818596</u>	

Part I Asset and Liability Statement			
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....	1a	0	0
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....	1b(1)	2246882	2699198
(2) Participant contributions.....	1b(2)	0	0
(3) Other.....	1b(3)	0	995
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)	0	0
(2) U.S. Government securities	1c(2)	0	0
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)	0	0
(B) All other	1c(3)(B)	0	0
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)	0	0
(B) Common.....	1c(4)(B)	0	0
(5) Partnership/joint venture interests	1c(5)	0	0
(6) Real estate (other than employer real property)	1c(6)	0	0
(7) Loans (other than to participants).....	1c(7)	0	0
(8) Participant loans.....	1c(8)	898114	1041123
(9) Value of interest in common/collective trusts.....	1c(9)	21202063	24369157
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts.....	1c(11)	0	0
(12) Value of interest in 103-12 investment entities	1c(12)	0	0
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	222807166	171141944
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
(15) Other	1c(15)	3588180	2921013

1d Employer-related investments:

		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)	0	0
(2) Employer real property	1d(2)	0	0
e Buildings and other property used in plan operation	1e	0	0
f Total assets (add all amounts in lines 1a through 1e)	1f	250742405	202173430

Liabilities

g Benefit claims payable	1g	0	0
h Operating payables	1h		
i Acquisition indebtedness	1i	0	0
j Other liabilities	1j	0	0
k Total liabilities (add all amounts in lines 1g through 1j)	1k	0	0

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	250742405	202173430
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income**a Contributions:**

		(a) Amount	(b) Total
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	2699198	
(B) Participants	2a(1)(B)	9386612	
(C) Others (including rollovers)	2a(1)(C)	118545	
(2) Noncash contributions	2a(2)	0	
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		12204355

b Earnings on investments:**(1) Interest:**

(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)	0	
(B) U.S. Government securities	2b(1)(B)	0	
(C) Corporate debt instruments	2b(1)(C)	0	
(D) Loans (other than to participants)	2b(1)(D)	0	
(E) Participant loans	2b(1)(E)	45117	
(F) Other	2b(1)(F)	0	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		45117

(2) Dividends: (A) Preferred stock	2b(2)(A)	0	
(B) Common stock	2b(2)(B)	0	
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	9902060	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		9902060

(3) Rents	2b(3)		0
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(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)	0	
(B) Aggregate carrying amount (see instructions)	2b(4)(B)	0	
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		0

(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)	0	
(B) Other	2b(5)(B)	0	
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		550534
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		0
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		0
(9) Net investment gain (loss) from 103-12 investment entities.....	2b(9)		0
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-52654839
c Other income	2c		-786655
d Total income. Add all income amounts in column (b) and enter total	2d		-30739428
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	17731589	
(2) To insurance carriers for the provision of benefits	2e(2)	0	
(3) Other	2e(3)	0	
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		17731589
f Corrective distributions (see instructions)	2f		0
g Certain deemed distributions of participant loans (see instructions)	2g		0
h Interest expense	2h		0
i Administrative expenses: (1) Professional fees	2i(1)	0	
(2) Contract administrator fees	2i(2)	97483	
(3) Investment advisory and management fees	2i(3)	475	
(4) Other	2i(4)	0	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		97958
j Total expenses. Add all expense amounts in column (b) and enter total	2j		17829547
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		-48568975
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☒ Unmodified (2) ☐ Qualified (3) ☐ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☒ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☐ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: **ERNST & YOUNG LLP**

(2) EIN: **34-6565596**

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		1000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X		
4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)			
4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?			
4k		X	
l Has the plan failed to provide any benefit when due under the plan?			
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m		X	
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.			
4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan AXCELIS TECHNOLOGIES, INC. LONG-TERM INVESTMENT PLAN		B Three-digit plan number (PN) ► 001
C Plan sponsor's name as shown on line 2a of Form 5500 AXCELIS TECHNOLOGIES, INC.		D Employer Identification Number (EIN) 34-1818596
Part I	Distributions	
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....		1 0
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 84-1455663		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....		3
Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)	
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☐ No ☐ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____ If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived).....		6a
b Enter the amount contributed by the employer to the plan for this plan year.....		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☐ N/A		
Part III	Amendments	
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box..... ☐ Increase ☐ Decrease ☐ Both ☐ No		
Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.	
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?.....		☐ Yes ☐ No
11 a Does the ESOP hold any preferred stock?.....		☐ Yes ☐ No
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.).....		☐ Yes ☐ No
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?.....		☐ Yes ☐ No
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2022 v. 220413		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14	Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:		
	a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....	14a	
	b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14b	
	c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14c	
15	Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:		
	a The corresponding number for the plan year immediately preceding the current plan year.....	15a	
	b The corresponding number for the second preceding plan year.....	15b	
16	Information with respect to any employers who withdrew from the plan during the preceding plan year:		
	a Enter the number of employers who withdrew during the preceding plan year	16a	
	b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers.....	16b	
17	If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐		

Part VI	Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans
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18	If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐
19	If the total number of participants is 1,000 or more, complete lines (a) through (c) a Enter the percentage of plan assets held as: Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____% b Provide the average duration of the combined investment-grade and high-yield debt: ☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more c What duration measure was used to calculate line 19(b)? ☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____
20	PBGC missed contribution reporting requirements. If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20. a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box: ☐ Yes. ☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date. ☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date. ☐ No. Other. Provide explanation _____

FINANCIAL STATEMENTS AND
SUPPLEMENTAL SCHEDULE

Axcelis Technologies, Inc. Long-Term Investment Plan
Years Ended December 31, 2022 and 2021
With Report of Independent Auditors

Axcelis Technologies, Inc. Long-Term Investment Plan

Financial Statements and Supplemental Schedule

Years Ended December 31, 2022 and 2021

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Report of Independent Auditors

The Plan Administrator and Participants
Axcelis Technologies, Inc. Long-Term Investment Plan

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit

We have performed audits of the financial statements of Axcelis Technologies, Inc. Long-Term Investment Plan (the Plan), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), as permitted by ERISA Section 103(a)(3)(C) (ERISA Section 103(a)(3)(C) audit). The financial statements comprise the statements of net assets available for benefits as of December 31, 2022 and 2021, and the related statements of changes in net assets available for benefits for the years then ended, and the related notes (collectively referred to as the “financial statements”).

Management, having determined it is permissible in the circumstances, has elected to have the audits of the financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor’s Rules and Regulations for Reporting and Disclosure under ERISA. As permitted by ERISA Section 103(a)(3)(C), our audits need not extend to any statements or information related to assets held for investment of the Plan (investment information) by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency, provided that the statements or information regarding assets so held are prepared and certified to by the bank or similar institution or insurance carrier in accordance with 29 CFR 2520.103-5 of the Department of Labor’s Rules and Regulations for Reporting and Disclosure under ERISA (qualified institution).

Management has obtained certifications from a qualified institution as of December 31, 2022 and 2021, and for the years then ended, stating that the certified investment information, as described in Note 4 to the financial statements, is complete and accurate.

Opinion

In our opinion, based on our audits and on the procedures performed as described in the Auditor’s Responsibilities for the Audit of the Financial Statements section

- the amounts and disclosures in the accompanying financial statements, other than those agreed to or derived from the certified investment information, are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America.

- the information in the accompanying financial statements related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our ERISA Section 103(a)(3)(C) audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error. Management's election of the ERISA Section 103(a)(3)(C) audit does not affect management's responsibility for the financial statements.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the Plan, and determining that the Plan's transactions that are presented and disclosed in the financial statements are in conformity with the Plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

Auditor's Responsibilities for the Audit of the Financial Statements

Except as described in the Scope and Nature of the ERISA Section 103(a)(3)(C) Audit section of our report, our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a

material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

Our audits did not extend to the certified investment information, except for obtaining and reading the certification, comparing the certified investment information with the related information presented and disclosed in the financial statements, and reading the disclosures relating to the certified investment information to assess whether they are in accordance with the presentation and disclosure requirements of accounting principles generally accepted in the United States of America.

Accordingly, the objective of an ERISA Section 103(a)(3)(C) audit is not to express an opinion about whether the financial statements as a whole are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Other Matter

Supplemental Schedule Required by ERISA

The supplemental schedule of assets (held at end of year) as of December 31, 2022, (referred to as the “supplemental schedule”), is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor’s Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information included in the supplemental schedule, other than that agreed to or derived from the certified investment information, has been subjected to auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS. For information included in the supplemental schedule that agreed to or is derived from the certified investment information, we compared such information to the related certified investment information.

In forming our opinion on the supplemental schedule, we evaluated whether the supplemental schedule, other than the information agreed to or derived from the certified investment information, including its form and content, is presented in conformity with the Department of Labor’s Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion

- the form and content of the supplemental schedule, other than the information in the supplemental schedule that agreed to or is derived from the certified investment information, are presented, in all material respects, in conformity with the Department of Labor’s Rules and Regulations for Reporting and Disclosure under ERISA.
- the information in the supplemental schedule related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Ernst + Young LLP

September 26, 2023

Axcelis Technologies, Inc. Long-Term Investment Plan

Statements of Net Assets Available for Benefits

	December 31	
	2022	2021
Assets		
Investments, at fair value	\$ 198,432,115	\$ 247,597,409
Notes receivable from participants	1,041,123	898,114
Employer contribution receivables	2,699,198	2,246,882
Other receivable	994	-
Net assets available for benefits	<u>\$ 202,173,430</u>	<u>\$ 250,742,405</u>

See accompanying notes.

Axcelis Technologies, Inc. Long-Term Investment Plan

Statements of Changes in Net Assets Available for Benefits

	Year Ended December 31	
	2022	2021
Additions		
Investment income:		
Net (depreciation) appreciation in fair value of investments	\$ (53,441,494)	\$ 13,613,825
Interest and dividends	10,452,594	20,141,206
Total investment income	(42,988,900)	33,755,031
Interest income on notes receivable from participants	45,117	45,926
Contributions:		
Employer	2,699,198	2,246,882
Participants	9,386,612	7,986,307
Rollovers	118,545	1,005,739
Total contributions	12,204,355	11,238,928
Total additions, net	(30,739,428)	45,039,885
Deductions		
Benefit payments	17,731,589	7,398,804
Administrative expenses	97,958	142,661
Total deductions	17,829,547	7,541,465
Net (decrease) increase	(48,568,975)	37,498,420
Net assets available for benefits at beginning of year	250,742,405	213,243,985
Net assets available for benefits at end of year	\$ 202,173,430	\$ 250,742,405

See accompanying notes.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements

December 31, 2022

1. Description of the Plan

General

The Axcelis Technologies, Inc. (Plan Sponsor or Company) Long-Term Investment Plan (the Plan) is a defined contribution plan subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), and covers all eligible employees of the Company. Participants should refer to the Summary Plan Description and the Plan document for a more complete description of the Plan's provisions. Copies are available from the plan administrator.

Contributions

The Plan was amended effective January 1, 2019 to include automatic enrollment with the following provisions applying:

- Eligible employees not participating in the Plan on January 1, 2019 were automatically enrolled with a deferral rate of 6% unless an employee chose to opt out within the 30-day grace period that ended on February 2, 2019.
- Employees participating in the Plan with a deferral rate of less than 6% on January 1, 2019 had a one-time automatic contribution rate increase up to 6% unless an employee opted out within the 30-day grace period that ended on February 2, 2019.
- Employees who become eligible to participate in the plan after January 1, 2019 are automatically enrolled with a deferral rate of 6% unless an employee chooses to opt out within the applicable 30-day grace period.

Participants may change their tax-deferred contributions, limited to 35% of compensation as defined in the Plan. Participants may also make after-tax contributions to the Plan, up to 17% of eligible compensation. Highly compensated employees are limited to 3% after-tax contributions. Participants may also contribute amounts representing distributions from other qualified plans (rollover contributions).

All matching contributions are discretionary and any discretionary match amount will be determined by the Plan Sponsor.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

For the 2021 plan year, a discretionary match was made and was equal to 50% of the aggregate tax-deferred contributions up to the first 6% of eligible compensation. To be eligible to receive the match, a participant must be employed on December 31, 2021.

For the 2022 plan year, a discretionary match was made and was equal to 50% of the aggregate tax-deferred contributions up to the first 6% of eligible compensation. To be eligible to receive the match, a participant must be employed on December 31, 2022.

For the 2023 plan year, a discretionary match will be made and will be equal to 50% of the aggregate tax-deferred contributions up to the first 6% of eligible compensation. To be eligible to receive the match, a participant must be employed on December 31, 2023.

Participant Accounts

Each participant's account is credited with the participant's contributions and the Company's matching contributions, if any, and allocations of plan earnings, and is charged with an allocation of administrative expenses. Plan earnings are allocated based on the participant's share of net earnings or losses of their respective elected investment options. Allocations of administrative expenses are based on the participant's account balances, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Vesting

For participants hired prior to January 1, 2003, their vested interest in their tax-deferred and after-tax contributions, rollover contributions, employer contributions, and actual earnings shall be 100% at all times. Participants hired after January 1, 2003, are 25% vested in employer contributions after one year of service and vest an additional 25% per year until they are fully vested (after four years of service).

Forfeitures

Upon termination of employment, participants forfeit their non-vested balances. Forfeited balances of terminated participants' non-vested accounts are used to reduce future Plan Sponsor contributions or to pay Plan expenses, in accordance with the Plan agreement. The unallocated forfeited balances were \$8,951 and \$23,233 on December 31, 2022 and 2021, respectively. Forfeitures used to reduce employer contributions applicable to the 2022 and 2021 employer match were \$10,609 and \$23,219, respectively.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

1. Description of the Plan (continued)

Notes Receivable from Participants

Participants may borrow from their accounts up to a maximum of the lesser of \$50,000 or 50% of their vested account balance. The minimum loan is \$1,000. A participant may not have more than one loan outstanding at any point in time. The loans are secured by the balance in the participant's account and bear interest at a rate commensurate with local prevailing rates at the date of issuance as determined by the plan administrator. Principal and interest are paid ratably through payroll deductions over terms of not more than five years, except for loans to purchase a principal residence. Upon default or termination of employment, the entire outstanding principal and accrued interest shall be immediately due and payable.

Benefit Payments

Upon retirement, death, disability or termination of service, a participant may receive a lump-sum amount equal to the value of his or her vested account, or an optional form of payment, as defined in the Plan. In-service withdrawals are available in certain limited circumstances, as defined by the Plan. Hardship withdrawals are allowed for participants incurring an immediate and heavy financial need, as defined by the Plan and are strictly regulated by the Internal Revenue Service (IRS).

Administrative Expenses

The Plan Sponsor generally pays expenses associated with the administration of the Plan, except for certain fees which are paid by the Plan or participants in the Plan. Expenses that are paid by the Plan Sponsor are excluded from these financial statements.

Plan Termination

Although it has not expressed any intent to do so, the Plan Sponsor has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of plan termination, participants will become 100% vested in their accounts.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

2. Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting.

Payment of Benefits

Benefits are recorded when paid.

Notes Receivable from Participants

Notes receivable from participants represent participant loans that are recorded at their unpaid principal balance plus any accrued but unpaid interest. Interest income on notes receivable from participants is recorded when it is earned. Related fees are recorded as administrative expenses and are expensed when they are incurred. No allowance for credit losses has been recorded as of December 31, 2022 or 2021. If a participant ceases to make loan repayments and the plan administrator deems the participant loan to be a distribution, the participant loan balance is reduced and a benefit payment is recorded.

Investments, Valuation, and Income Recognition

Investments held by the Plan are stated at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). See Note 3 for further discussion and disclosures related to fair value measurements.

Interest income is recorded on the accrual basis. Dividend income is recorded on the ex-dividend date. Security transactions are recorded on a trade-date basis. Net (depreciation) appreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year.

Use of Estimates

The preparation of the financial statements in conformity with generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts in the financial statements and accompanying notes and supplemental schedule. Actual results could differ from those estimates.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

3. Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., an exit price). The fair value framework establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The fair value hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets and liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

- Level 1 – Unadjusted quoted prices in active markets that are accessible to the reporting entity at the measurement date for identical assets and liabilities.
- Level 2 – Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:
 - Quoted prices for similar assets and liabilities in active markets
 - Quoted prices for identical or similar assets or liabilities in markets that are not active
 - Observable inputs other than quoted prices that are used in the valuation of the assets or liabilities (e.g., interest rate and yield curve quotes at commonly quoted intervals)
 - Inputs that are derived principally from or corroborated by observable market data by correlation or other means
- Level 3 – Unobservable inputs for the asset or liability (i.e., supported by little or no market activity). Level 3 inputs include management’s own assumption about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

The level in the fair value hierarchy within which the fair value measurement is classified is determined based on the lowest level input that is significant to the fair value measurement in its entirety.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

3. Fair Value Measurements (continued)

Investments in mutual funds are stated at fair market value based on quoted market values on the last business day of the Plan year. Securities listed on a registered exchange are valued at the last reported sales price on the last business day of the Plan year. The Common Collective Trust Fund is valued at net asset value of the Fund.

The following tables set forth by fair value hierarchy level the Plan's investments carried at fair value:

	Level 1	Level 2	Level 3	Total
December 31, 2022				
Mutual funds	\$ 171,141,944	\$ —	\$ —	\$ 171,141,944
Brokerage account	2,921,013	—	—	2,921,013
Common Collective Trust	24,369,158	—	—	24,369,158
Total	<u>\$ 198,432,115</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 198,432,115</u>
December 31, 2021				
Mutual funds	\$ 222,807,166	\$ —	\$ —	\$ 222,807,166
Brokerage account	3,588,180	—	—	3,588,180
Common Collective Trust	21,202,063	—	—	21,202,063
Total	<u>\$ 247,597,409</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 247,597,409</u>

4. Investments

Certain information related to investments and notes receivable from participants disclosed in the accompanying financial statements and supplemental schedule, including investments held and notes receivable from participants at December 31, 2022 and 2021, and net (depreciation) appreciation in fair value of investments, interest, dividends, and interest income on notes receivable from participants for the years then ended, was obtained or derived from information provided to the plan administrator and certified as complete and accurate by Empower Trust Company LLC, the trustee of the Plan.

Axcelis Technologies, Inc. Long-Term Investment Plan

Notes to Financial Statements (continued)

5. Risks and Uncertainties

The Plan and its participants invest in various investment securities. Investment securities are exposed to various risks such as interest rate, market volatility, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term, and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

6. Income Tax Status

The Plan has received a determination letter from the IRS, dated October 26, 2017, stating that the Plan is qualified under Section 401(a) of the Internal Revenue Code (the Code) and, therefore, the related trust is exempt from taxation. Subsequent to this determination by the IRS, the Plan was amended. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualified status. The plan administrator believes the Plan is being operated in compliance with the applicable requirements of the Code and therefore believes that the Plan, as amended, is qualified and the related trust is tax-exempt.

U.S. GAAP requires plan management to evaluate uncertain tax positions taken by the Plan. The financial statement effects of a tax position are recognized when the position is more likely than not, based on the technical merits, to be sustained upon examination by the IRS. The plan administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2022, there are no uncertain positions taken or expected to be taken. The Plan has recognized no interest or penalties related to uncertain tax positions. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

7. Related-Party Transactions

The Plan holds shares of investment funds managed by Empower Trust Company LLC. These transactions qualify as party-in-interest transactions; however, they are exempt from the prohibited transactions rules under ERISA.

8. Subsequent Events

Management evaluated subsequent events for the Plan through, September 26, 2023, the date the financial statements were available to be issued.

Supplemental Schedule

Axcelis Technologies, Inc. Long-Term Investment Plan

EIN 34-1818596; Plan #001

Schedule H, Line 4i – Schedule of Assets (Held at End of Year)

December 31, 2022

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par, or Maturity Value	Current Value
Mutual funds		
Mainstay	Large Cap Growth Fund	3,226,697 shares \$ 26,878,384
JP Morgan	Small Cap Equity Fund	414,031 shares 20,883,740
Vanguard	500 Index – Admiral Fund	59,897 shares 21,210,364
JP Morgan	U.S. Equity Fund	1,113,345 shares 19,116,132
American Funds	EuroPacific Growth Fund	273,154 shares 13,392,718
JP Morgan	Equity Income Fund	700,736 shares 15,815,623
Western Asset	Core Plus Bond Fund	951,918 shares 8,909,949
Vanguard	Target Retirement Date Fund Instl – 2020	170,555 shares 4,325,268
Vanguard	Target Retirement Date Fund – 2025 Instl	648,411 shares 11,415,974
Principal	Mid Cap Fund	183,290 shares 5,718,650
Vanguard	Target Retirement Date Fund – 2030 Instl	265,184 shares 8,318,835
Vanguard	Target Retirement Date Fund – 2035 Instl	292,965 shares 5,668,871
Vanguard	Target Retirement Fund-Income Inv	236,858 shares 2,899,146
Vanguard	Target Retirement Date Fund – 2040 Instl	63,876 shares 2,171,784
Vanguard	Target Retirement Date Fund – 2050 Instl	35,294 shares 1,334,115
Vanguard	Target Retirement Date Fund – 2055 Instl	24,423 shares 1,029,911
Vanguard	Target Retirement Date Fund – 2045 Instl	25,023 shares 571,021
Vanguard	Target Retirement Date Fund – 2060 Instl	24,813 shares 963,490
Vanguard	Target Retirement Date Fund – 2065 Instl	20,360 shares 517,969
Total mutual funds		<u>171,141,944</u>

Axcelis Technologies, Inc. Long-Term Investment Plan

EIN 34-1818596; Plan #001

Schedule H, Line 4i – Schedule of Assets (Held at End of Year) (continued)

December 31, 2022

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par, or Maturity Value	Current Value
TD Ameritrade*	Brokerage accounts	\$ 2,921,013
Putnam*	Stable Value Fund	24,369,158
Participant loans*	Varying maturity dates with interest rates ranging from 4.25% to 9.25%	1,041,123
Total		<u>\$ 199,473,238</u>

*Indicates party-in-interest to the Plan.

Note: Cost information has not been included because all investments are participant directed.

Axcelis Technologies, Inc. Long-Term Investment Plan

EIN 34-1818596; Plan #001

Schedule H, Line 4i – Schedule of Assets (Held at End of Year)

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Axcelis Technologies, Inc. Long-Term Investment Plan

EIN 34-1818596; Plan #001

Schedule H, Line 4i – Schedule of Assets (Held at End of Year) (continued)

December 31, 2022

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