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

2021

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

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
RENAISSANCE TECHNOLOGIES LLC 401(K) PLAN

1b Three-digit plan number (PN) ▶ 002

1c Effective date of plan 12/19/2011

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)
RENAISSANCE TECHNOLOGIES LLC

800 THIRD AVENUE
NEW YORK, NY 10022-1535

2b Employer Identification Number (EIN) 26-0385758

2c Plan Sponsor's telephone number 212-821-1535

2d Business code (see instructions) 523900

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.	10/12/2022	JAMES ROWEN
	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

3a Plan administrator's name and address [X] 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**	369
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)**	316
a(2) Total number of active participants at the end of the plan year	**6a(2)**	317
b Retired or separated participants receiving benefits	**6b**	0
c Other retired or separated participants entitled to future benefits	**6c**	57
d Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	374
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	4
f Total. Add lines **6d** and **6e**	**6f**	378
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	376
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	
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 3D 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)	[X]	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)	[X]	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)	[X]	**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)	[X]		**H** (Financial Information)
(2)	[ ]		**I** (Financial Information – Small Plan)
(3)	[ ]	0	**A** (Insurance Information)
(4)	[X]		**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 2021 Form M-1 annual report. If the plan was not required to file the 2021 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)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	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.**	**2021** **This Form is Open to Public Inspection.**

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
RENAISSANCE TECHNOLOGIES LLC 401(K) PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
RENAISSANCE TECHNOLOGIES LLC

D Employer Identification Number (EIN)
26-0385758

Part I Service Provider Information (see instructions)

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).. . . . . [X] 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

CALAMOS INVESTMENTS
2020 CALAMOS COURT
NAPERVILLE, IL 60563-2787

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

DIMENSIONAL FUND ADVISORS LP
6300 BEE CAVE ROAD
BUILDING ONE
AUSTIN, TX 78746

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

FIDELITY MANAGEMENT & RES COMPANY

04-2033129

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

GAMCO INVESTORS, INC.
ONE CORPORATE CENTER
RYE, NY 10580-1422

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

HENNESSY FUNDS

7250 REDWOOD BLVD.
SUITE 200
NOVATO, CA 94945

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

INTREPID CAPITAL FUNDS

C/O U.S. BANCORP FUND SERVICES, LLC
P.O. BOX 701
MILWAUKEE, WI 53201-0701

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

IVY INVESTMENTS

6300 LAMAR AVENUE
P.O. BOX 29217
SHAWNEE MISSION, KS 66201-9217

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

JANUS CAPITAL MANAGEMENT LLC

151 DETROIT STREET
DENVER, CO 80206

75-3019302

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

KINETICS MUTUAL FUNDS, INC.

C/O U.S. BANCORP FUND SERVICES, LLC
P.O. BOX 701
MILWAUKEE, WI 53201-0701

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

LT TRUST COMPANY

61-1607607

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

PACIFIC INVESTMENT MANAGEMENT CO

650 NEWPORT CENTER DRIVE
NEWPORT BEACH, CA 92660

33-0629048

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

PFO GLOBAL ASSET MGMT, INC.

84-0765063

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

PUTNAM INVESTMENT MANAGEMENT, LLC

04-3542621

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

RS INVESTMENT MNGMT CO, LLC

ONE BUSH STREET
SUITE 900
SAN FRANCISCO, CA 94104

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

SEGALL BRYANT AND HAMILL LLC

540 W. MADISON STREET
SUITE 1900
CHICAGO, IA 60611

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

SUNAMERICA ASSET MANAGEMENT, LLC

185 HUDSON STREET
SUITE 3300
JERSEY CITY, NJ 07311

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

T.ROWE PRICE GROUP, LLC

100 EAST PRATT STREET
BALTIMORE, MD 21202

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

THE VANGUARD GROUP, INC

PO BOX 2900
VALLEY FORGE, PA 19482

23-1945930

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

THOMPSON IM FUNDS, INC.

C/O US BANCORP FUND SERVICES, LLC
615 EAST MICHIGAN STREET
MILWAUKEE, WI 53202

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

VANECK

666 THIRD AVENUE
NEW YORK, NY 10017

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

WELLS FARGO FUNDS MANAGEMENT LLC

525 MARKET STREET
SAN FRANCISCO, CA 94105

94-3382001

(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)

(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 ☐

(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 ☐

(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 ☐

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)

(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 ☐

(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 ☐

(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
(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.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(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.	

(a) Enter service provider name as it appears on line 2	**(b)** Service Codes (see instructions)	**(c)** Enter amount of indirect compensation
(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.	

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

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 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

2021

This Form is Open to Public Inspection

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
RENAISSANCE TECHNOLOGIES LLC 401(K) PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
RENAISSANCE TECHNOLOGIES LLC

D Employer Identification Number (EIN)
26-0385758

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	12554529	22122942
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)	44860903	60836961
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)	356416600	569826611
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)	765722	847632
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds)	1c(13)	106739415	154983672
(14) Value of funds held in insurance company general account (unallocated contracts)	1c(14)		
(15) Other	1c(15)		

			(a) Beginning of Year	**(b)** End of Year
1d	Employer-related investments:			
	(1) Employer securities	1d(1)		
	(2) Employer real property	1d(2)		
e	Buildings and other property used in plan operation	1e		
f	Total assets (add all amounts in lines 1a through 1e)	1f	521337169	808617818
	Liabilities			
g	Benefit claims payable	1g		
h	Operating payables	1h		
i	Acquisition indebtedness	1i		
j	Other liabilities	1j		
k	Total liabilities (add all amounts in lines 1g through1j)	1k	0	0
	Net Assets			
l	Net assets (subtract line 1k from line 1f)	1l	521337169	808617818

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)** Amount	**(b)** Total
a	**Contributions:**			
	(1) Received or receivable in cash from: **(A)** Employers	2a(1)(A)	11122950	
	(B) Participants	2a(1)(B)	5929945	
	(C) Others (including rollovers)	2a(1)(C)	486131	
	(2) Noncash contributions	2a(2)		
	(3) Total contributions. Add lines **2a(1)(A), (B), (C),** and line **2a(2)**	2a(3)		17539026
b	**Earnings on investments:**			
	(1) Interest:			
	(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
	(B) U.S. Government securities	2b(1)(B)		
	(C) Corporate debt instruments	2b(1)(C)		
	(D) Loans (other than to participants)	2b(1)(D)		
	(E) Participant loans	2b(1)(E)	34014	
	(F) Other	2b(1)(F)		
	(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		34014
	(2) Dividends: **(A)** Preferred stock	2b(2)(A)		
	(B) Common stock	2b(2)(B)		
	(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	15177667	
	(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		15177667
	(3) Rents	2b(3)		
	(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
	(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
	(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)		
	(B) Other	2b(5)(B)		
	(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)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		
c Other income	2c		258520492
d Total income. Add all **income** amounts in column (b) and enter total	2d		291271199
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	3985467	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		3985467
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: **(1)** Professional fees	2i(1)		
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)	5083	
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		5083
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		3990550
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		287280649
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) [X] 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) [X] 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: PRICEWATERHOUSECOOPERS LLP **(2)** EIN: 13-4008324

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:

		Yes	No	Amount
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.)	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?	**4e**	X		10000000
f	Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	**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.)	**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

2021

This Form is Open to Public Inspection.

For calendar plan year 2021 or fiscal plan year beginning 01/01/2021 and ending 12/31/2021

A Name of plan
RENAISSANCE TECHNOLOGIES LLC 401(K) PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
RENAISSANCE TECHNOLOGIES LLC

D Employer Identification Number (EIN)
26-0385758

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): 75-3182674

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**

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (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

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 _____

Renaissance Technologies LLC 401(k) Plan

Financial Statements
and Supplemental Schedule
As of December 31, 2021 and 2020
and for the Year Ended December 31, 2021

Renaissance Technologies LLC 401(k) Plan
Index
December 31, 2021 and 2020

Report of Independent Auditors 1

Financial Statements:

Statements of Net Assets Available for Benefits as of December 31, 2021 and 2020 5

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Supplemental Schedule*:

Schedule H, Line 4(i) - Schedule of Assets (Held at End of Year) as of December 31, 2021 18

*Other schedules required by 29 CFR 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA have been omitted because they are not applicable.



Report of Independent Auditors

To the Administrator of Renaissance Technologies LLC 401(k) Plan

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

We have performed an audit of the accompanying 2021 financial statements of Renaissance Technologies LLC 401(k) 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 2021 financial statements comprise the statement of net assets available for benefits as of December 31, 2021, and the related statement of changes in net assets available for benefits for the year then ended, including the related notes (collectively referred to as the "2021 financial statements").

Management, having determined it is permissible in the circumstances, has elected to have the audit of the Plan's 2021 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 audit 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 a certification from a qualified institution as of and for the year ended December 31, 2021, stating that the certified investment information, as described in Note 5 to the financial statements, is complete and accurate.

Opinion

In our opinion, based on our audit and on the procedures performed as described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report

- the amounts and disclosures in the accompanying 2021 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 2021 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 audit in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' 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 audit. 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.

Other Matter – 2020 Financial Statements

We were engaged to audit the 2020 financial statements of the Plan, which comprise the statement of net assets available for benefits as of December 31, 2020, and the related statement of changes in net assets available for benefits for the year then ended (not presented herein, other than the statement of net assets available for benefits). As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information certified by a qualified institution. In our report dated August 12, 2021, we indicated that (a) because of the significance of the information that we did not audit, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion and accordingly, we did not express an opinion on the 2020 financial statements, and (b) the form and content of the information included in the 2020 financial statements, other than that derived from the certified information, were presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

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 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.

Auditors' 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 auditors' 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 US 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 US 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 audit 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

Schedule H, line 4(i) - Schedule of Assets (Held at End of Year) as of December 31, 2021 ("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 the auditing procedures applied in the audit 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 US 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, is 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).

PricewaterhouseCoopers LLP

New York, NY
August 12, 2022

Renaissance Technologies LLC 401(k) Plan
Statements of Net Assets Available for Benefits
December 31, 2021 and 2020

	2021	2020
Assets		
Investments, at fair value	**$ 785,647,244**	$ 508,016,918
Notes receivable from participants	**847,632**	765,722
Subscriptions paid in advance (Note 2)	**22,122,942**	12,554,529
Net Assets Available for Benefits	**$808,617,818**	$521,337,169

The accompanying notes are an integral part of these financial statements.

Renaissance Technologies LLC 401(k) Plan
Statement of Changes in Net Assets Available for Benefits
For the Year ended December 31, 2021

Additions to Net Assets Attributed to:	
Investment income:	
Net appreciation on investments	**$ 258,520,077**
Interest and dividend income	**15,177,667**
Total Investment Income	**273,697,744**
Interest income from notes receivable from participants	**34,014**
Restorative payments	**415**
Contributions:	
Employer	**11,122,950**
Participant rollovers	**486,131**
Participants	**5,929,945**
Total Contributions	**17,539,026**
Total Additions	**291,271,199**
Deductions from Net Assets Attributed to:	
Benefits paid to participants and beneficiaries	**3,985,467**
Administrative expenses	**5,083**
Total Deductions	**3,990,550**
Net Increase	**287,280,649**
Net Assets Available for Benefits, Beginning of Year	**521,337,169**
Net Assets Available for Benefits, End of Year	**$808,617,818**

The accompanying notes are an integral part of these financial statements.

1. Plan Description

General

The Renaissance Technologies LLC 401(K) Plan (the "Plan") was established effective December 19, 2011, and was most recently amended and restated as of January 1, 2022. Renaissance Technologies LLC (the "Company" or "Renaissance") sponsors the Plan for its eligible employees and for eligible employees of its wholly owned subsidiary, Renaissance Institutional Management LLC. The following description of the Plan provides general information only. Participants should refer to the Plan document for a complete description of the Plan's provisions.

The Plan is a defined contribution 401(k) plan and is administered by the 401(k) Administration Committee (the "Plan Administrator") appointed by the Company. The Plan Administrator is responsible for providing Plan participants with information about their rights and benefits under the Plan. The Plan is designed to provide eligible employees with tax advantaged savings for retirement and is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), as amended. Participants may direct their investment to one or more investment funds offered by the Plan. The Plan's assets are held in trust by LT Trust Company (the "Trustee"). The Trustee does not have any discretion, discretionary control or authority with respect to any assets of the Plan, including the investment or dispositions thereof.

Certain investment funds offered by the Plan are managed by Renaissance whereby Renaissance is the general partner, managing member, or investment manager (the "Renaissance Funds"). The Company obtained Prohibited Transaction Exemption 2012-10 (the "Original PTE") from the United States Department of Labor, retroactive to January 1, 2012, in order to permit investments in certain Renaissance Funds by permitted individuals' and eligible employees' IRAs. The Original PTE was amended by Prohibited Transaction exemption 2014-9, effective as of October 1, 2014 (the Original PTE, as so amended, defined herein as the "PTE"), which permitted investments in certain Renaissance Funds by the Plan. Eligibility to invest in the Renaissance Funds is subject to the governing documents of such funds and applicable federal and state securities and other laws. Investments by the Plan in the Renaissance Funds are on a fee-free basis, which is required in the case of the Renaissance Funds covered by the PTE.

Contributions

Full-time employees are eligible to participate in the Plan as of their date of hire. Once an eligible employee makes or receives an eligible contribution to the Plan, he or she becomes a participant in the Plan ("Participant"). Participants may elect to make pre-tax contributions, also called elective deferral contributions, up to 100% of their eligible compensation as defined by the Plan on a pre-tax basis, subject to limits imposed by the Internal Revenue Code ("IRC"). The IRC limited the maximum amount an employee may contribute on a pre-tax basis in 2021 to $19,500 for Participants under 50 years of age and $26,000 for Participants 50 years of age and over.

The Plan allows elective deferral contributions to be made as Roth contributions which are made in the same manner as pre-tax elective deferral contributions except that Roth contributions are made to the Plan on an after-tax basis.

The Company will match eligible employee's contributions in an amount equal to 500% of the employee's contributions not to exceed 2% of the employee's annual compensation (10% total including the Company's match) subject to a maximum of $290,000 total compensation. All matching contributions are computed by the Plan Administrator based on eligible compensation contributed to the Plan each month. For purposes of matching contributions, compensation is determined over the calendar year ending with the Plan year.

The Company may, in its sole discretion, make a profit sharing contribution to the Plan on behalf of

eligible Participants. A Participant is eligible to receive a profit sharing contribution if he or she is employed by the Company on the last day of the Plan year. Eligible employees who terminate employment with the Company due to death or disability are eligible to receive a profit sharing contribution regardless of whether he or she is employed on the last day of the Plan year. Profit sharing contributions are allocated pro rata based on compensation to eligible Participant accounts.

For the years ended December 31, 2021 and 2020, profit sharing contributions were $2,760,240 and $2,572,266, respectively.

The Plan may accept a rollover contribution made on behalf of an eligible employee subject to certain procedures defined in the Plan.

Restorative Payments

During 2021, the Company made restorative payments in the amount of $415 to the Plan. These payments were allocated to certain Plan participants who had been redeemed from certain Plan investments. This amount is included in the Statement of Changes in Net Assets Available for Benefits.

Vesting

Participants are immediately 100% vested in their elective deferral contributions, rollover contributions, Company match and Company profit sharing contributions, and the earnings thereon.

Participant Accounts

Each Participant's account is credited with the Participant's contributions, the Company contributions and earnings (losses) of each investment fund in which the Participant has invested. Earnings (losses) of each investment fund are allocated to Participant accounts pro rata based on the Participants' investment balances.

Notes Receivable from Participants

Participants may borrow against their account balances subject to the approval of the Plan Administrator. The maximum amount that the Plan can permit as a loan is (1) the greater of $10,000 or 50% of the Participant's vested account balance, or (2) $50,000, whichever is less. A Participant may have two outstanding loans from the plan at a time. However, any new loan, when added to the outstanding balance of all of the Participant's existing loans from the Plan, cannot be more than the Plan maximum amount. In determining the Plan maximum amount in that case, the $50,000 is reduced by the difference between the highest outstanding balance of all of the Participant's loans during the 12-month period ending on the day before the new loan and the outstanding balance of the Participant's existing loans from the Plan on the date of the new loan. If a loan exceeds one-half of the present value of the Participant's account balance, the Participant must give additional security for the loan.

The minimum loan is $1,000, and each Participant can only have two loans outstanding at a time. Loans must be repaid in accordance with the repayment schedule over a period not extending beyond five years from the date of the loan, unless the loan is used for a principal residence. The loans are secured by the balance in the Participant's account and bear interest at rates commensurate with local prevailing rates as determined by the Plan Administrator. Loans outstanding during the years ended December 31, 2021 and 2020 charged interest between 3.25% and 6.00%. Principal and interest is paid ratably through monthly payroll deductions.

Investments

The Plan allows Participants to direct the investment of account balances in one or more available

investment funds, which consist of a money market fund, mutual funds, and the Renaissance Funds, pursuant to the Plan Administrator's uniform guidelines and procedures relating to Participant self-direction.

Benefit Payments

The Plan permits lump-sum distributions to Participants upon retirement, termination, disability, or death in accordance with provisions of the Plan. Withdrawals from the Plan may also be made based upon circumstances of financial hardship.

Plan Expenses

Certain Plan expenses are charged to Participants including loan processing fees, and redemption and distribution fees. All other expenses of administering the Plan are paid by the Company.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and all values are stated in U.S. Dollars.

Valuation of investments

Shares or interests in money market and mutual funds are valued at the daily closing price, as reported by that fund to the Trustee. The Renaissance Funds, however, are valued only as of the last day of each calendar month by Renaissance. Investments in Renaissance Funds are valued at fair value. Renaissance is responsible for establishing the methods to determine fair value. Participant's accounts are credited with their allocable share of the earnings and losses of each investment fund since the immediately preceding valuation date. For purposes of the allocation of investment earnings and losses, the Plan Administrator may adjust the value of interests of funds in accounts as of the preceding valuation date to account for any contributions, distributions or withdrawals that occur after such preceding valuation date.

Investments in the Renaissance Funds are measured at fair value. The Company follows the practical expedient provisions per Financial Accounting Standards Board Accounting Standards Codification 820 ("FASB ASC 820"), which permits the Company to estimate the fair value of investments at net asset value if the net asset value is calculated in a manner consistent with the measurement principles of Financial Accounting Standards Board Accounting Standards Codification 946, Financial Services – Investment Companies ("FASB ASC 946"). The Company evaluates each investment to determine that its net asset value is calculated in a manner consistent with FASB ASC 946. In accordance with FASB ASC 946, the Company also considers whether an adjustment to the net asset value is necessary based upon various factors, including, but not limited to, the attributes of the interest in the investment held, including the rights and obligations, and any restrictions on or illiquidity of such interests, and the fair value of the Renaissance Funds' investment portfolio or other assets and liabilities. No adjustments were considered necessary.

Income Recognition

Investments in the Renaissance Funds are recorded on the effective date of the contribution to or redemption from the funds. Gains/(losses) on the Renaissance Funds are recorded pursuant to the governing documents of each fund and are communicated by the Company to the Trustee. Purchases of mutual funds and money market funds are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividend income is recorded on the ex-dividend date. Net appreciation on investments consists of gains and losses on investments bought and sold as well as held during the year.

Subscriptions paid in advance

Subscriptions paid in advance represent Plan assets that were contributed by Participants to the Renaissance Funds in advance of the Renaissance Funds' effective subscription date of January 1, 2022, as well as redemptions from the Renaissance Funds which are receivables of the Plan as of December 31, 2021.

Benefit Payments

Benefit payments are recorded when paid.

Notes Receivable

Notes receivable from Participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Interest income is recorded on the accrual basis. Related fees are recorded as administrative expenses and are expensed when they are incurred.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the fair value of investments, the reported amounts of other assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of income and expenses during the reporting period. Actual results may differ from those estimates.

3. Fair Value Measurements and Disclosures

ASC 820, *Fair Value Measurements and Disclosures,* defines fair value, establishes a framework for measuring fair value, and expands disclosures about assets and liabilities measured at fair value. The objective of a fair value measurement is to determine 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). Under ASC 820, fair value measurements are not adjusted for transaction costs.

The standard prioritizes, within a measurement of fair value, the use of market-based inputs over entity specific inputs and establishes a three-level valuation hierarchy for disclosure of fair value measurements based on the transparency of inputs to the valuation of an asset or liability. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 inputs); quoted prices in markets that are not considered to be active or assets and liabilities for which all significant inputs are observable, either directly or indirectly, for substantially the full term of the asset or liability (Level 2 inputs); and finally, unobservable inputs (Level 3 inputs). An asset or liability's categorization within the valuation hierarchy is based on the lowest level of input that is significant, individually or in the aggregate, to the fair value measurement.

As of December 31, 2021 and 2020, the Plan held $569,826,611 and $356,416,600, respectively, of interests in Renaissance Funds. Renaissance values these funds using the practical expedient and therefore these investments have not been categorized in the fair value hierarchy.

The following table presents assets carried at fair value as of December 31, 2021 and 2020, on the accompanying statements of net assets available for benefits and by the fair value hierarchy. The Plan held no Level 2 or Level 3 investments as of and for the years ended December 31, 2021 and December 31, 2020.

As of December 31, 2021 the Plan had no unfunded commitments.

December 31, 2021		
Assets	**Total**	**Fair Value Measurements at December 31, 2021 Using Quoted Prices in Active Markets for Identical Assets (Level 1)**
Money market funds	$60,836,961	$60,836,961
Mutual funds	154,983,672	154,983,672
Investments excluded from valuation hierarchy	569,826,611	N/A
Total investments, at fair value	$785,647,244	$215,820,633

December 31, 2020		
Assets	**Total**	**Fair Value Measurements at December 31, 2020 Using Quoted Prices in Active Markets for Identical Assets (Level 1)**
Money market funds	$44,860,903	$44,860,903
Mutual funds	106,739,415	106,739,415
Investments excluded from valuation hierarchy	356,416,600	N/A
Total investments, at fair value	$508,016,918	$151,600,318

4. Fund Investment Objectives

The following is a brief description of the investment objectives, strategies, and certain attributes of the Renaissance Funds held by the Plan, see Note 8:

Long/Short Equity Funds

The Plan holds Interests in two Long/Short Equity Funds whose strategies are as follows:

The investment objective of the first such fund is to achieve over the long term a risk-adjusted return that, on a gross basis, exceeds that of the S&P 500 Index (with dividends reinvested) (the "Index") with lower volatility than the Index and relatively low beta by investing in a widely diversified portfolio consisting almost exclusively of listed global (i.e., U.S. and non-U.S.) equity securities that are publicly traded on U.S. securities exchanges. Effective May 18, 2020, redemptions are permitted quarterly, and written notice of the requested redemption must be received no later than noon (New York time) on the first business day of the calendar month immediately preceding the redemption date. Prior to May 18, 2020, and effective July 1, 2018, requests were required to be received no later than two full calendar months in advance.

The investment objective of the second such fund is to maximize long-term return while attempting to meet a standard deviation target selected by the Company, maintaining low long-term beta relative to capitalization-weighted equity market indices. This strategy invests in equity securities that are publicly traded on global securities exchanges, as well as derivatives thereon. Effective May 18, 2020, redemptions are permitted quarterly, and written notice of the requested redemption must be received no later than noon (New York time) on the first business day of the calendar month immediately preceding the redemption date. Prior to May 18, 2020, and effective July 1, 2018, requests were required to be received no later than two full calendar months in advance.

Managed Equities and Futures Fund

The investment objective is to maximize long-term return while attempting to meet a standard deviation target selected by the Company with low correlation to the U.S. and global (i.e. U.S. and non-U.S.) equity markets and medium to low correlation to other asset classes. This strategy invests in a diversified portfolio consisting primarily of positions in equity securities and futures and forward contracts, as well as related instruments. On April 1, 2022, the Company eliminated algorithmic futures/forwards trading from these investment funds. Effective May 18, 2020, redemptions are permitted quarterly, and written notice of the requested redemption must be received no later than noon (New York time) on the first business day of the calendar month immediately preceding the redemption date. Prior to May 18, 2020, and effective July 1, 2018, requests were required to be received no later than two full calendar months in advance.

Multi-Strategy Fund

The investment objective is to achieve appreciation of assets with low volatility by investing in other private investment funds sponsored by the Company. Effective May 18, 2020, redemptions are permitted quarterly, and written notice of the requested redemption must be received no later than noon (New York time) on the first business day of the calendar month immediately preceding the redemption date. Prior to May 18, 2020, and effective July 1, 2018, requests were required to be received no later than two full calendar months in advance.

Statistical Arbitrage Funds

The investment objective is to achieve appreciation of assets through speculative investment and trading in a variety of both securities-related and futures-related financial instruments. Redemptions may be made as of the last day of each calendar quarter and require at least 10 days prior irrevocable written notice.

5. Information Certified by the Plan's Trustee

The Plan Administrator has elected the method of annual reporting compliance permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, the Trustee has certified that the following data included in the accompanying financial statements and supplemental schedule are complete and accurate.

December 31,	**2021**	2020
Investments in money market and mutual funds	**$ 215,820,633**	$ 151,600,318
Notes receivable from participants	**847,632**	765,722
	$216,668,265	$152,366,040

Year ended December 31, 2021	
Net appreciation on investments in money market and mutual funds	**$ 2,862,964**
Interest and dividend income	**15,177,667**
Interest income from notes receivable from participants	**34,014**
	$ 18,074,645

The Plan's independent accountants did not perform auditing procedures with respect to this information, except for comparing such information to the related information included in the financial statements, notes to financial statements and supplemental schedule.

6. Income Tax Status

The Company adopted the prototype 401(k) and profit sharing plan provided by LT Trust Company that received a favorable opinion letter from the Internal Revenue Service ("IRS") on March 31, 2014. The Plan Administrator believes that the Plan is currently designed and is being operated in compliance with the applicable requirements of the IRC.

U.S. GAAP requires Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not 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, 2021, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions with respect to tax years for which the applicable statute of limitations has not expired; however, there are currently no audits in progress for any tax period.

7. Risks and Uncertainties

The Plan's mutual fund and money market fund investment options are exposed to various risks, such as interest rate, market and credit. Due to the level of risk associated with certain investments and the level of uncertainty related to changes in the value of investments, it is at least reasonably possible that changes in the values of investment securities will occur in the near term, and such changes could have a material adverse effect on Participants' account balances and the amounts reported in the statements of net assets available for benefits.

The Plan's investments in the Renaissance Funds are exposed to various types of financial risks that are associated with the financial instruments and markets in which they invest.

Derivatives are instruments that derive their value from underlying asset prices, indices, reference rates, and other inputs or a combination of these factors. Derivatives may be privately negotiated contracts, which are usually referred to as over-the-counter ("OTC") derivatives, or they may be listed and traded on an exchange.

In the normal course of business, many of the Renaissance Funds trade various financial instruments that present off-balance-sheet, market, and credit risks. Generally, these financial instruments represent future commitments or options to purchase or sell other financial instruments at specific prices at specified future dates, which expose the Renaissance Funds to market risk if the market value of the contract is higher or lower than the contract price at the maturity date. In addition, OTC derivative instruments expose the Renaissance Funds to credit risk arising from the potential inability of counterparties to perform under the terms of the contracts.

The Renaissance Funds' OTC derivative contracts contain credit-risk-related contingent features, primarily those included in certain International Swaps and Derivatives Association master agreements. These contingent features may result in the termination of derivative contracts if any of those Renaissance Funds' creditworthiness deteriorates. At December 31, 2021 and 2020, none of the Renaissance Funds were in violation of any covenants applicable to them.

The Renaissance Funds may borrow and utilize leverage through contracts for difference, futures contracts, swap contracts, forward foreign currency contracts, OTC call options, short positions, and margining of its brokerage accounts. While borrowing and leverage present opportunities for increasing total return, they also have the effect of potentially creating or increasing losses, which in the case of a call option is limited to the premium paid. The Renaissance Funds monitor the use of notional leverage and available margin lines with counterparties on a regular basis.

Investments in derivative instruments subject the Renaissance Funds to off-balance-sheet market risk whereby changes in the fair value of the financial instruments underlying the derivative

instruments may vary from the amount reflected on the financial statements of the Renaissance Funds.

Derivative instruments and securities sold but not yet purchased represent, to varying degrees, forms of borrowing and leverage. Unfavorable borrowing conditions could increase the financing costs or limit access to the capital markets for certain lenders (including derivative counterparties). There is no guarantee that the Renaissance Funds' arrangements for obtaining leverage will continue to be available or obtainable on terms and conditions acceptable to the Renaissance Funds.

The Renaissance Funds invest in marketable and fixed-income securities and are exposed to market risks resulting from changes in the fair value of their investments. In addition, many of the Renaissance Funds are subject to credit risk and risks resulting from interest rate fluctuations on their investments.

Securities sold, but not yet purchased by the Renaissance Funds may give rise to off-balance-sheet risk. These transactions involve an obligation to purchase the securities at a future date at fair value. A gain, limited to the price at which a Renaissance Fund sold the securities short, or a loss, unlimited as to the potential amount, will be recognized upon the termination of a short sale. The Renaissance Funds have recorded these obligations in the financial statements based on the fair values of the securities as of December 31, 2021 and 2020. There is an element of off-balance-sheet risk in that, if the securities increase in value, it will be necessary to purchase the securities at a cost in excess of the price reflected on the financial statements of the Renaissance Funds.

Regulatory agencies may restrict certain trading activities through new regulations. In some instances, the Renaissance Funds' compliance with these new regulations may have an impact on their trading strategy or operational efficiency. The Renaissance Funds continually assess the impact of compliance with all new regulatory requirements to determine the appropriate risk management and operational processes to implement.

The Renaissance Funds' portfolios may consist of investments that require consideration of certain risks typically not associated with investing in U.S. issuers. Such risks include, among other things, applicable economic policies, unfavorable currency exchange rate fluctuations, imposition of exchange control regulation by the U.S. or non-U.S. governments, greater market volatility, differing securities market structures, and economic or political instability in foreign nations.

The Renaissance Funds are exposed to the risk that the exchange rate of the U.S. dollar relative to other currencies may change in a manner that has an adverse effect on the reported value of the Renaissance Funds' assets and liabilities denominated in currencies other than the U.S. dollar.

Any sanctions or other governmental or regulatory actions could result in significant market disruptions and could materially affect the Renaissance Fund's investment and trading activities. A recent example is Russia's military invasion of Ukraine in February 2022, which resulted in the United States and other countries imposing significant, wide-ranging economic sanctions against Russia.

Epidemics and pandemics present additional risks. Many countries have been susceptible to epidemics, such as severe acute respiratory syndrome, avian flu, H1N1/09 flu, and currently, COVID-19, which the World Health Organization has declared to be a pandemic. The epidemic or pandemic outbreak of an infectious disease in a country or region of the world or globally, together with any resulting restrictions on travel, transportation, or production of goods or quarantines imposed, will likely have a negative impact on the national, regional, or global economy and business activity in some if not all of the countries in which the Plan's assets may be invested and thereby adversely affect the performance of the Plan's investments. Any outbreak of an infectious disease or any other serious public health concern in a country or region or globally could materially harm the Plan's investments. Furthermore, COVID-19 and any future outbreak of an infectious disease or any other serious public health concern may lead to significant interruption in the normal business activities

of the Company, the Renaissance Funds, or other service providers (including financial intermediaries), which could negatively affect the Plan.

8. Related Parties

The Plan offered Participants the opportunity to direct their investment into the following funds for which Renaissance serves as the general partner, managing member, or investment manager:

- Medallion Fund RF L.P.
- Medallion RMPRF Fund, L.P.
- Renaissance Institutional Equities Fund LLC (Series RF)
- Renaissance Kaleidoscope RF Fund LLC
- Renaissance Institutional Diversified Alpha Fund LLC (Series RF)
- Renaissance Institutional Diversified Global Equities Onshore Fund L.P. (Series RF)

There were no amounts due to or from the Renaissance Funds as of December 31, 2021 and 2020. Transactions between the Renaissance Funds and the Plan for the year ended December 31, 2021 were as follows:

Fund	Strategy (Note 4)	January 1, 2021 balance	Contributions	Net gains on investments	Redemptions	December 31, 2021 balance
Medallion Fund RF L.P.	Statistical Arbitrage Fund	$260,157,376	$8,196,044	$219,948,456	$(38,083,332)	$450,218,544
Medallion RMPRF Fund, L.P.	Statistical Arbitrage Fund	$28,433,337	$3,358,615	$23,779,059	$(11,244,487)	$44,326,524
Renaissance Institutional Equities Fund LLC (Series RF)	Long/Short Equity Fund	$35,937,035	$2,245,118	$6,432,824	$(6,065,093)	$38,549,884
Renaissance Kaleidoscope RF Fund LLC	Multi-Strategy Fund	$5,771,681	$1,374,762	$2,404,361	$(563,448)	$8,987,356
Renaissance Institutional Diversified Alpha Fund LLC (Series RF)	Managed Equities and Futures Fund	$4,015,389	$452,214	$657,777	$(265,547)	$4,859,833
Renaissance Institutional Diversified Global Equities Onshore Fund L.P. (Series RF)	Long/Short Equity Fund	$22,101,782	$2,423,117	$2,434,636	$(4,075,065)	$22,884,470
Total		$356,416,600	$18,049,870	$255,657,113	$(60,296,972)	$569,826,611

9. Plan Termination

The Company has the right to terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, the net assets of the Plan will be distributed to Participants in accordance with the provisions of the Plan and as prescribed by ERISA (Note 10).

10. Subsequent Events

The Company evaluated all events that occurred from January 1, 2022 through August 12, 2022, the date the financial statements were available to be issued. During this period, the Plan did not have any additional material recognizable subsequent events other than those noted below.

Effective May 13, 2022, the Vanguard Target Retirement 2015 Fund (VTXVX) and the PIMCO Global Bond Opportunities Fund (PADMX) were removed from the Plan offerings and all assets invested in and investment elections directed to that fund were transferred to a target-date Vanguard fund within the Plan corresponding to the Plan Participant's anticipated "Normal Retirement Age," unless otherwise directed by the Plan Participant.

On May 29, 2022, the Board of Directors of Renaissance decided to discontinue offering the interests in the Renaissance Funds in which the Plan was invested (the “RF Series”). As such, all investments in the RF Series were mandatorily redeemed as of June 30, 2022. Renaissance intends to terminate the Plan by December 31, 2022.

Supplemental Schedule

Renaissance Technologies LLC 401(k) Plan

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

December 31, 2021

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost**	(e) Current Value
	Money Market Funds:			
	Gabelli U.S. Treasury Money Market Fund	Money market fund, 54,832,630 shares		**$54,832,630**
	AWP Money Market Fund	Money market fund, 6,004,331 shares		**6,004,331**
	Total Money Market Funds			**60,836,961**
	Mutual Funds:			
	Calamos International Growth FD Class – A	Mutual fund, 164,069 shares		**3,883,520**
	DFA Inflation Protected Sec Portfolio	Mutual fund, 209,287 shares		**2,785,613**
	Fidelity Advisor Industrials - I	Mutual fund, 49,863 shares		**2,121,159**
	Fidelity Select Consumer Staples	Mutual fund, 36,886 shares		**3,608,179**
	Hennessy Gas Utility Investor	Mutual fund, 55,919 shares		**1,406,354**
	Intrepid Endurance Investor	Mutual fund, 99,599 shares		**1,806,721**
	Invesco Oppenheimer Developing Markets Y	Mutual fund, 40,901 shares		**1,923,155**
	Ivy High Income Fund Class Y	Mutual fund, 303,433 shares		**2,133,134**
	Janus Henderson Triton Fund T Shares	Mutual fund, 95,759 shares		**3,202,164**
	Kinetics Market Opportunities	Mutual fund, 93,603 shares		**3,818,079**
	PIMCO Global Bond - Admin	Mutual fund, 151,992 shares		**1,342,092**
	PIMCO Real Estate Real Return Strategy	Mutual fund, 334,022 shares		**3,089,700**
	Putnam Mortgage Securities Y	Mutual fund, 70,296 shares		**792,935**
	Segall Bryant & Hamill Fundamental International	Mutual fund, 55,456 shares		**1,354,779**
	T Rowe Price Global Tech FD	Mutual fund, 675,222 shares		**15,739,430**
	T Rowe Price Health Sciences FD	Mutual fund, 90,056 shares		**9,373,072**
	Thompson Plumb Bond Fund	Mutual fund, 159,642 shares		**1,743,288**
	Touchstone Dividend Equity Fund	Mutual fund, 81,631 shares		**1,477,516**
	Van Eck International Investors Gold – A	Mutual fund, 442,218 shares		**4,559,271**
	Vanguard 500 Index Fund - Admiral	Mutual fund, 64,144 shares		**28,212,447**
	Vanguard Dividend Growth FD	Mutual fund, 276,860 shares		**10,875,062**
	Vanguard Energy Fund – Inv	Mutual fund, 78,799 shares		**3,045,592**
	Vanguard Target Retirement Income	Mutual fund, 10,861 shares		**157,048**
	Vanguard Target Retirement 2015	Mutual fund, 238,108 shares		**3,478,757**
	Vanguard Target Retirement 2020	Mutual fund, 43,336 shares		**1,344,273**

* - Parties in interest

** - The cost of participant-directed investments is not required to be disclosed.

The above information related to money market and mutual funds, as well as notes receivable from participants, has been derived from data certified accurate and complete by LT Trust Company, the trustee.

Renaissance Technologies LLC 401(k) Plan

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

December 31, 2021

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost**	(e) Current Value
	Mutual Funds (Continued):			
	Vanguard Target Retirement 2025	Mutual fund, 159,313 shares		**$ 3,240,425**
	Vanguard Target Retirement 2030	Mutual fund, 115,177 shares		**4,425,119**
	Vanguard Target Retirement 2035	Mutual fund, 330,469 shares		**7,878,376**
	Vanguard Target Retirement 2040	Mutual fund, 86,109 shares		**3,619,159**
	Vanguard Target Retirement 2045	Mutual fund, 275,206 shares		**7,810,343**
	Vanguard Wellesley Income Inv	Mutual fund, 163,350 shares		**4,728,977**
	Wells Fargo Growth Inst	Mutual fund, 183,430 shares		**10,007,933**
	Total Mutual Funds			**154,983,672**
	Alternative Investments:			
	Renaissance Institutional Diversified Alpha Fund LLC - Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**4,859,833**
	Renaissance Institutional Equities Fund LLC – Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**38,549,884**
	Medallion Fund RF L.P.	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**450,218,544**
	Renaissance Kaleidoscope RF Fund LLC	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**8,987,356**
	Renaissance Institutional Diversified Global Equities Onshore Fund L.P. - Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**22,884,470**
	Medallion RMPRF Fund, L.P.	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**44,326,524**
	Total Alternative Investments			**569,826,611**
*	**Notes receivable from participants**	Interest rate of 3.25%-6.00%, maturing 02/28/2022-08/14/2043.		**847,632**
	Total Assets Held			**$786,494,876**

* - Parties in interest
** - The cost of participant-directed investments is not required to be disclosed.

The above information related to money market and mutual funds, as well as notes receivable from participants, has been derived from data certified accurate and complete by LT Trust Company, the trustee.

Renaissance Technologies LLC 401(k) Plan

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

December 31, 2021

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost**	(e) Current Value
	Money Market Funds:			
	Gabelli U.S. Treasury Money Market Fund	Money market fund, 54,832,630 shares		**$54,832,630**
	AWP Money Market Fund	Money market fund, 6,004,331 shares		**6,004,331**
	Total Money Market Funds			**60,836,961**
	Mutual Funds:			
	Calamos International Growth FD Class – A	Mutual fund, 164,069 shares		**3,883,520**
	DFA Inflation Protected Sec Portfolio	Mutual fund, 209,287 shares		**2,785,613**
	Fidelity Advisor Industrials - I	Mutual fund, 49,863 shares		**2,121,159**
	Fidelity Select Consumer Staples	Mutual fund, 36,886 shares		**3,608,179**
	Hennessy Gas Utility Investor	Mutual fund, 55,919 shares		**1,406,354**
	Intrepid Endurance Investor	Mutual fund, 99,599 shares		**1,806,721**
	Invesco Oppenheimer Developing Markets Y	Mutual fund, 40,901 shares		**1,923,155**
	Ivy High Income Fund Class Y	Mutual fund, 303,433 shares		**2,133,134**
	Janus Henderson Triton Fund T Shares	Mutual fund, 95,759 shares		**3,202,164**
	Kinetics Market Opportunities	Mutual fund, 93,603 shares		**3,818,079**
	PIMCO Global Bond - Admin	Mutual fund, 151,992 shares		**1,342,092**
	PIMCO Real Estate Real Return Strategy	Mutual fund, 334,022 shares		**3,089,700**
	Putnam Mortgage Securities Y	Mutual fund, 70,296 shares		**792,935**
	Segall Bryant & Hamill Fundamental International	Mutual fund, 55,456 shares		**1,354,779**
	T Rowe Price Global Tech FD	Mutual fund, 675,222 shares		**15,739,430**
	T Rowe Price Health Sciences FD	Mutual fund, 90,056 shares		**9,373,072**
	Thompson Plumb Bond Fund	Mutual fund, 159,642 shares		**1,743,288**
	Touchstone Dividend Equity Fund	Mutual fund, 81,631 shares		**1,477,516**
	Van Eck International Investors Gold – A	Mutual fund, 442,218 shares		**4,559,271**
	Vanguard 500 Index Fund - Admiral	Mutual fund, 64,144 shares		**28,212,447**
	Vanguard Dividend Growth FD	Mutual fund, 276,860 shares		**10,875,062**
	Vanguard Energy Fund – Inv	Mutual fund, 78,799 shares		**3,045,592**
	Vanguard Target Retirement Income	Mutual fund, 10,861 shares		**157,048**
	Vanguard Target Retirement 2015	Mutual fund, 238,108 shares		**3,478,757**
	Vanguard Target Retirement 2020	Mutual fund, 43,336 shares		**1,344,273**

* - Parties in interest

** - The cost of participant-directed investments is not required to be disclosed.

The above information related to money market and mutual funds, as well as notes receivable from participants, has been derived from data certified accurate and complete by LT Trust Company, the trustee.

Renaissance Technologies LLC 401(k) Plan

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

December 31, 2021

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment, Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost**	(e) Current Value
	Mutual Funds (Continued):			
	Vanguard Target Retirement 2025	Mutual fund, 159,313 shares		**$ 3,240,425**
	Vanguard Target Retirement 2030	Mutual fund, 115,177 shares		**4,425,119**
	Vanguard Target Retirement 2035	Mutual fund, 330,469 shares		**7,878,376**
	Vanguard Target Retirement 2040	Mutual fund, 86,109 shares		**3,619,159**
	Vanguard Target Retirement 2045	Mutual fund, 275,206 shares		**7,810,343**
	Vanguard Wellesley Income Inv	Mutual fund, 163,350 shares		**4,728,977**
	Wells Fargo Growth Inst	Mutual fund, 183,430 shares		**10,007,933**
	Total Mutual Funds			**154,983,672**
	Alternative Investments:			
	Renaissance Institutional Diversified Alpha Fund LLC - Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**4,859,833**
	Renaissance Institutional Equities Fund LLC – Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**38,549,884**
	Medallion Fund RF L.P.	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**450,218,544**
	Renaissance Kaleidoscope RF Fund LLC	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**8,987,356**
	Renaissance Institutional Diversified Global Equities Onshore Fund L.P. - Series RF	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**22,884,470**
	Medallion RMPRF Fund, L.P.	Alternative investment. There is no maturity date, rate of interest, collateral, par or maturity value.		**44,326,524**
	Total Alternative Investments			**569,826,611**
*	**Notes receivable from participants**	Interest rate of 3.25%-6.00%, maturing 02/28/2022-08/14/2043.		**847,632**
	Total Assets Held			**$786,494,876**

* - Parties in interest
** - The cost of participant-directed investments is not required to be disclosed.

The above information related to money market and mutual funds, as well as notes receivable from participants, has been derived from data certified accurate and complete by LT Trust Company, the trustee.