RAFAEL HOLDINGS, INC.

RAFAEL
Holdings, Inc.

2018 ANNUAL REPORT

RAFAEL
Holdings, Inc.

Dear Fellow Stockholders:

In March of this year, Rafael Holdings (NYSE American: RFL) was spun off from IDT Corporation and became an independent public company. Since then, we have made excellent progress developing both our real estate assets and our investments in oncology-focused pharmaceutical companies.

Our real estate assets, located in New Jersey and Jerusalem, include a 20-story office building and adjacent garage in Newark, NJ's resurgent commercial market. We are actively pursuing multiple avenues to realize the full value of all our real estate.

On the pharma side of the business, we have partially exercised a warrant that entitles the company to purchase up to 56% of Rafael Pharmaceuticals, Inc.

Rafael Pharmaceuticals' lead compound, CPI-613, catastrophically disrupts metabolic pathways specific to cancer cells. CPI-613 has shown remarkable promise treating a wide spectrum of cancers in pre-clinical studies and in early stage clinical trials. Two pivotal Phase III studies to evaluate CPI-613 for patients with metastasized pancreatic cancer and relapsed / refractory acute myeloid leukemia are now underway in multiple centers worldwide.

As Rafael Holdings exercises its warrant, Rafael Pharma is utilizing this capital to finance its Phase III clinical trials and other studies of CPI-613, to advance research on additional molecules targeting cancer's unique cellular metabolism and for general corporate purposes.

Rafael also holds a majority stake in Lipomedix — an early stage company that utilizes nano-technologies to aid in the delivery of cancer therapies.

This will be an exciting year as we continue to develop our real estate and pharma assets. I look forward to reporting to you on our progress.

Sincerely,

Howard S. Jonas
Chairman and Chief Executive Officer

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ Annual report pursuant to section 13 or 15(d) of the securities exchange act of 1934 for the fiscal year ended July 31, 2018.

or

☐ Transition report pursuant to section 13 or 15(d) of the securities exchange act of 1934.

Commission File Number: 000-55863

RAFAEL HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**82-2296593**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

520 Broad Street, Newark, New Jersey 07102
(Address of principal executive offices, zip code)

(212) 658-1450
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of each exchange on which registered**
Class B common stock, par value $.01 per share	NYSE American

Securities registered pursuant to section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☒
Non-accele rated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

As of October 10, 2018, the registrant had outstanding 11,786,397 shares of Class B common stock and 787,163 shares of Class A common stock.

DOCUMENTS INCORPORATED BY REFERENCE

The definitive proxy statement relating to the registrant's Annual Meeting of Stockholders, to be held January 10, 2019, is incorporated by reference into Part III of this Form 10-K to the extent described therein.

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RAFAEL HOLDINGS, INC.
Annual Report on Form 10-K

Part I

As used in this Annual Report, unless the context otherwise requires, the terms the "Company," "Rafael Holdings," "we," "us," and "our" refer to Rafael Holdings, Inc., a Delaware corporation, and its subsidiaries, collectively. Each reference to a fiscal year in this Annual Report refers to the fiscal year ending in the calendar year indicated (for example, fiscal 2018 refers to the fiscal year ended July 31, 2018).

Item 1. Business.

Overview

Rafael Holdings, Inc. ("Rafael") owns commercial real estate assets and interests in clinical and early stage pharmaceutical companies. The assets are operated as two separate lines of business. The commercial real estate holdings consist of the building at 520 Broad Street in Newark, New Jersey that houses IDT's headquarters, and its associated public garage, an office/data center building in Piscataway, New Jersey and a portion of a building in Israel that hosts offices for IDT and certain affiliates. The pharmaceutical holdings include debt, preferred equity interests and warrants in Rafael Pharmaceuticals, Inc., which is a clinical stage, oncology-focused, pharmaceutical company committed to the development and commercialization of therapies that exploit the metabolic differences between normal cells and cancer cells, and a majority equity interest in LipoMedix Pharmaceuticals Ltd., an early stage oncology focused pharmaceutical company based in Israel.

Financial information by segment is presented in Note 12 in the Notes to our Consolidated and Combined Financial Statements in Item 8 of this Annual Report.

Our headquarters are located at 520 Broad Street, Newark, New Jersey 07102. The main telephone number at our headquarters is (212) 658-1450 and our corporate web site's home page is *www.rafaelholdings.com*.

We make available free of charge our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to these reports, and all beneficial ownership reports on Forms 3, 4 and 5 filed by directors, officers and beneficial owners of more than 10% of our equity through the investor relations page of our web site (*http://Rafaeholdings.com/irpass.com*) as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission. Our web site also contains information not incorporated into this Annual Report on Form 10-K or our other filings with the Securities and Exchange Commission.

The Spin-Off

On March 26, 2018, IDT Corporation, which we refer to as IDT, our former parent corporation, completed a tax-free spinoff (the "Spin-Off") of our capital stock, through a pro rata distribution of our common stock to its stockholders of record as of the close of business on March 13, 2018 (the "Record Date"). As a result of the Spin-Off, each of IDT's stockholders received: (i) one share of the Company's Class A common stock for every two shares of IDT's Class A common stock held on the Record Date, and (ii) one share of the Company's Class B common stock for every two shares of IDT's Class B common stock held of record on the Record Date. On March 26, 2018, 787,163 shares of the Company's Class A common stock, and 11,754,835 shares of the Company's Class B common stock were issued and outstanding, which includes 114,945 restricted stock units issued to employees and consultants in connection with the spin.

We entered into various agreements with IDT prior to the Spin-Off, including a Separation and Distribution Agreement to effect the separation and provide a framework for the our relationship with IDT after the Spin-Off, and a Transition Services Agreement, which provides for certain services to be performed by IDT to facilitate our transition into a separate publicly-traded company. These agreements provide for, among other things, (1) the allocation between the Company and IDT of employee benefits, taxes and other liabilities and obligations attributable to periods prior to the Spin-Off, (2) transitional services to be provided by IDT relating to human resources and employee benefits administration, and (3) finance, accounting, tax, investor relations and legal services to be provided by IDT to us following the Spin-Off. In addition, we entered into a Tax Separation Agreement with IDT, which sets forth the responsibilities of us and IDT with respect to, among other things, liabilities for federal, state, local and foreign taxes for periods before and including the Spin-Off, the preparation and filing of tax returns for such periods and disputes with taxing authorities regarding taxes for such periods.

Recent Developments

On September 5, 2018, our subsidiary CS Pharma Holdings, LLC ("CS Pharma"), partially exercised the Warrant (the "Warrant") to purchase Series D Convertible Preferred Stock of Rafael Pharmaceuticals, Inc. ("Rafael Pharmaceuticals") held by certain of our subsidiaries. CS Pharma purchased 8.0 million shares of Rafael Pharmaceuticals' Series D Convertible Preferred Stock for $10 million representing approximately 13.5% of the outstanding equity of Rafael Pharmaceuticals.

Business Description

We own commercial real estate assets and interests in clinical and early stage pharmaceutical companies. The assets are operated as two separate lines of business and we are looking to increase the value of our real estate holdings.

Real Estate

The commercial real estate holdings consist of the building at 520 Broad Street in Newark, New Jersey that houses IDT's headquarters, and its associated public garage, an office/data center building in Piscataway, New Jersey and a portion of a building in Israel that hosts offices for IDT and certain affiliates.

520 Broad Street in Newark New Jersey is a 20-story commercial office building containing approximately 496,000 square feet. The building was completed in 1957 and is of steel-frame construction with cast-in-place concrete floors. The facade is constructed of stone and metal framed glass curtain wall sections. The public garage has three levels, plus additional surface parking that, in total, can accommodate in excess of 800 parking spaces. We have retained a leading real estate brokerage firm to market the building for potential sale while we continue to attempt to maximize the value of our holdings by leasing activity and improvements.

The building serves as the headquarters of IDT Corporation and IDT's affiliate, Genie Energy, who occupy the second through fourth floors, which have been recently renovated. Currently, approximately 24.30% of the building is leased, including leases to IDT and Genie.

The IDT lease expires in April 2025 and is for 80,000 square feet and includes two parking spots per thousand square feet of space leased. The annual base rent is $1,528,000. IDT has the right to terminate the lease upon four months' notice and, upon early termination, IDT will pay a penalty equal to 25% of the portion of the rent due over the course of the remaining term. IDT has the right to lease an additional 50,000 square feet in the building on the same terms as the base lease, in 25,000 square feet increments. Upon expiration of the lease, IDT has the right to renew the lease for another five years on substantially the same terms, with a 2% increase in the rental payments.

The Genie lease expires in April 2025 and is for 8,631 square feet and includes two parking spots per thousand square feet of space leased. The annual base rent is $198,513. Genie has the right to terminate the lease upon four months' notice and, upon early termination, Genie will pay a penalty equal to 25% of the portion of the rent due over the course of the remaining term. Upon expiration of the lease, Genie has the right to renew the lease for another five years on substantially the same terms, with a 2% increase in the rental payments.

In addition to the IDT and Genie leases, there are three additional leases for space in the building. The first lease is for a portion of the sixth floor for an eleven-year term, of which the first six years are non-cancellable. The second lease is for a portion of the ground floor and basement for a term of ten years, seven months and the third lease is for another portion of the ground floor for a term of ten years, four months. The leases have all commenced. At July 31, 2018 and July 31, 2017, the carrying value of the land, building and improvements at 520 Broad Street was $45.2 million and $45.6 million, respectively.

Depreciation and amortization expense of property, plant and equipment was $1.7 million, $1.7 million and $1.6 million in fiscal 2018, fiscal 2017 and fiscal 2016, respectively.

The building in Piscataway is located at 225 Old New Brunswick Road: it is a three story commercial office building containing approximately 65,000 square feet. The building was completed in 1978. Since its completion, the building has been leased as data space and therefore has power, diverse paths of fiber, back-up generators and dedicated HVAC units. Currently, approximately 28% of the building is leased to two data users. Both leases are to tenants who each occupy a portion of the first floor. One lease expires at the end of 2020 and the other lease expires

at the end of October 2022. We have retained Colliers International to market the building for potential sale. The marketing efforts initiated in the first quarter of fiscal 2019.

The real estate holding in Israel is a condominium portion of an office building built in 2004 located in the Har Hotzvim section of Jerusalem, Israel. The condominium is approximately 12,400 square feet and the space is occupied by IDT and related parties. Har Hotzvim is a high-tech industrial park located in northwest Jerusalem. It is the city's main zone for science-based and technology companies, among them Intel, Teva and Mobileye. A related party terminated its lease as of June 30, 2017. As of July 31, 2018, IDT is leasing approximately 30% of the condominium.

Pharmaceuticals

Rafael Pharmaceuticals is a clinical stage, oncology-focused pharmaceutical company committed to the development and commercialization of therapies that exploit the metabolic differences between normal cells and cancer cells. LipoMedix, based in Israel, is a clinical stage oncology company.

We own our interests/rights in Rafael Pharmaceutical through a 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC. IDT-Rafael Holdings holds a warrant to purchase a significant stake in Rafael Pharmaceuticals, as well as other equity and governance rights in Rafael Pharmaceuticals, and owns 50% of CS Pharma, a non-operating entity which holds convertible debt and other rights to purchase equity interests in Rafael Pharmaceuticals.

Those interests/rights include:

1. $10,000,000 of Series D Convertible Notes of Rafael Pharmaceuticals held by CS Pharma.

2. A warrant to purchase up to 56% of the capital stock of Rafael Pharmaceuticals — the right to exercise the first $10,000,000 worth of the warrant is held by CS Pharma; and the remainder is held directly by IDT-Rafael Holdings.

3. On September 5, 2018, CS Pharma exercised the first $10 million of warrants to purchase 8.0 million shares of Series D Convertible Preferred Stock of Rafael Pharmaceuticals, representing approximately 13.5% of the outstanding equity of Rafael Pharmaceuticals.

We also have certain governance rights, including appointment of directors.

On September 19, 2017, IDT approved a compensatory arrangement with Howard S. Jonas related to the right held by IDT-Rafael Holdings to receive additional Rafael Pharmaceutical shares ("Bonus Shares") upon the achievement of certain milestones. Under that arrangement, IDT and the Company transferred to Howard Jonas the contractual right to receive "Bonus Shares" for an additional 10% of the outstanding capital stock of Rafael Pharmaceuticals that was previously held by IDT-Rafael Holdings, which is contingent upon achieving certain milestones. This right was previously held by IDT-Rafael Holdings, subject to its right to transfer to recipients that IDT-Rafael Holdings, in its sole discretion, felt merit because of special efforts by such persons in assisting Rafael Pharmaceuticals and its products. IDT-Rafael Holdings distributed the rights to its members and we transferred the portion we received to Howard Jonas. If any of the milestones are met, the Bonus Shares are to be issued without any additional payment. Howard Jonas has the right to transfer the Bonus Shares, in his discretion, to others, including those who are instrumental to the future success of Rafael Pharmaceuticals.

On March 2, 2017, Howard Jonas, our Chairman of the Board, and Chairman of the Board of Rafael Pharmaceuticals purchased 10% of IDT-Rafael Holdings, LLC, in which the Company's direct and indirect interest and rights in Rafael Pharmaceuticals were held, for a purchase price of $1 million, which represented 10% of the Company's cost basis in IDT-Rafael Holdings. We hold our interest in CS Pharma through our 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC, which holds a 50% interest in CS Pharma. Accordingly, we will hold an effective 45% indirect interest in the assets held by CS Pharma, including its cash. Separately, Howard Jonas and Deborah Jonas jointly own $525,000 of Series C Convertible Notes of Rafael Pharmaceuticals, and The Howard S. and Deborah Jonas Foundation owns $525,000 of Series C Notes of Rafael Pharmaceuticals.

The Rafael Pharmaceuticals Series D Note earns interest at 3.5% per annum, with principal and accrued interest which was due and payable on September 16, 2018. The Company and Rafael Pharmaceuticals are in

discussions regarding the maturity of the Series D Note. The Series D Note is convertible at the holder's option into shares of Rafael Pharmaceuticals' Series D Preferred Stock, or Series D Stock. The Series D Note also includes a mandatory conversion into Rafael Pharmaceuticals common stock upon a qualified initial public offering, and conversion at the holder's option upon an unqualified financing event. In all cases, the Series D Note conversion price is based on the applicable financing purchase price. We and CS Pharma were issued warrants to purchase shares of capital stock of Rafael Pharmaceuticals representing up to 56% of the then issued and outstanding capital stock of Rafael Pharmaceuticals, on an as-converted and fully diluted basis. The right to exercise warrants as to the first $10 million thereof is owned by CS Pharma and the remainder is owned by IDT-Rafael Holdings. The warrant expires on December 31, 2020. Currently, if we desire to raise additional financing from unaffiliated parties in connection with our exercise of our warrant or other current rights to invest in Rafael Pharmaceuticals (but not including the Rafael Pharmaceuticals rights held by CS Pharma), we first must give the other CS Pharma holders the opportunity to provide such financing on a pro rata basis. The exercise price of the warrant is the lower of 70% of the price sold in an equity financing, or $1.25 per share, subject to certain adjustments. The minimum initial and subsequent exercises of the warrant shall be for such number of shares that will result in at least $5 million of gross proceeds to Rafael Pharmaceuticals, or such lesser amount as represents 5% of the outstanding capital stock of Rafael Pharmaceuticals, or such lesser amount as may then remain unexercised. The warrant will expire upon the earlier of December 31, 2020 or a qualified initial public offering or liquidation event of Rafael Pharmaceuticals.

The Series D Stock has a stated value of $1.25 per share (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series D Preferred Stock or any dilutive issuances, as described below). Holders of Series D Stock are entitled to receive non-cumulative dividends when, as and if declared by the board of Rafael Pharmaceuticals, prior to any dividends to any other class of capital stock of Rafael Pharmaceuticals. In the event of any liquidation, dissolution or winding up of the Company, or in the event of any deemed liquidation, proceeds from such liquidation, dissolution, winding up shall be distribute first to the holders of Series D Stock. Except with respect to certain major decisions, or as required by law, holders of Series D Stock vote together with the holders of the other preferred stock and common stock and not as a separate class.

As of October 15, 2018 and based on the current shares issued and outstanding of Rafael Pharmaceuticals, we, and our affiliates that hold interests in Rafael Pharmaceuticals would need to pay in the aggregate approximately $61 million to exercise the warrant in full and approximately $46 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. On an as-converted fully diluted basis (for all convertible securities of Rafael Pharmaceuticals outstanding), we and our affiliates that hold interests in Rafael Pharmaceuticals would need approximately $112 million to exercise the Warrant in full and approximately $88 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. Following that exercise, a portion of our interest in Rafael Pharmaceuticals would continue to be held for the benefit of the other equity holders in IDT-Rafael Holdings and CS Pharma.

We serve as the managing member of IDT-Rafael Holdings and IDT-Rafael Holdings serves as the managing member of CS Pharma, with broad authority to make all key decisions regarding their respective holdings. Any distributions that are made to CS Pharma from Rafael Pharmaceuticals that are in turn distributed by CS Pharma, will need to be made pro rata to all members, which would entitle IDT-Rafael Holdings to 50% (based on current ownership) of such distributions. Similarly, if IDT-Rafael Holdings were to distribute proceeds it receives from CS Pharma, it would do so on a pro rata basis, entitled the Company to 90% (based on current ownership) of such distributions.

Science & Pre-Clinical:

The lead product of Rafael Pharmaceuticals is CPI-613 (as small molecule). CPI-613 is suitable for intravenous (IV) administration.

In the 1920's, Nobel Prize Winner Dr. Otto Warburg observed that cancer cells metabolize glucose differently than normal cells. This effect has more recently come to be recognized as a component of a broadly pervasive repurposing and reregulation of metabolism in cancer, including mitochondrial components. This broad, deep reconfiguration of metabolism is now understood to represent one of the defining hallmarks of most or all cancers.

All living cells require a continual input of fuel to survive and reproduce. Adenosine 5-triphosphate (ATP) is the universal energy-carrying molecule generated by consumption of fuels in biological systems. Glucose is the primary source of raw material fuel needed for the generation of ATP in most normal cells. Mutations known to cause cancer engender changes in the processing of fuels as well as the nature of the fuel needed by cancer cells to

support their growth and survival. Some of the changes are largely unique to cancer and not typically found among healthy cells in the body. While these changes are not identical in every tumor cell type there is sufficient overlap to suggest that targeting the process of fuel conversion to anabolic intermediates and energy is likely to produce a more durable response than less selective effects of earlier chemotherapeutics. By attacking a process that is unique to cancer and not found in healthy cells an improvement in both potency and safety and quality of life is expected to be achievable (Heiden, M. G. V., & DeBerardinis, R. J. (2017). Understanding the Intersections between Metabolism and Cancer Biology. *Cell*, 168, 657-669. doi:10.1016/j.cell.2016.12.039 and Warburg, O. (1956). Origin of Cancer Cells. *Science*, 123, 309-314. doi:10.1126/science.123.3191.309).

In addition to exploiting the metabolic regulatory differences between normal and cancerous cells, Altered Metabolism Directed (AMD) compounds are selectively taken up by cancer cells as opposed to normal cells at cancer cell killing concentrations in cell culture. It is hypothesized that this feature of our AMD compounds is associated with their structural resemblance to fatty acids, another bioenergetic fuel source and critical cellular component whose uptake is widely upregulated in tumor cells.

In preclinical testing, CPI-613 exhibited 100% growth inhibition against all tested cells derived from human patient tumor biopsies and 100% cell kill against the vast majority of cell lines tested in cell culture from the National Cancer Institute and American Type Tissue Culture Collection library. Several of these tested cell lines are known to be resistant to the more frequently prescribed current chemotherapeutic agents. CPI 613 was tested at levels having no material impact on normal cells. Additional preclinical AMD/CPI-613 studies demonstrated potent tumor growth inhibition in human tumor animal models in vivo (Zachar, et al., 2011, *Journal of Molecular Medicine* 89, 1137).

There are many potential advantages to the AMD platform. Among them, AMD molecules selectively target altered energy metabolism in cancer cells (more specifically chokepoints in the tricarboxylic cycle) which reregulated in cancer cells resulting in inhibition mitochondrial flux of fuels (glucose, glutamine). This in turn triggers apoptosis or excessive hydrogen peroxide and other radical production leading to cancer cell specific necrosis. High toxicity of many cancer drugs is because of unintended killing healthy cells. It is anticipated that AMD molecules will have minimal toxic effect on healthy cells and thus, potentially exhibit high safety and tolerability profile. Further, high selectivity of AMD compounds has potential to treat cancers in multiple clinical settings (metastatic, neoadjuvant and adjuvant) and because of their low toxicity, AMD molecules may be used in combination with current standard of care.

Preliminary data from pre-clinical trials suggests that Rafael Pharmaceuticals' strategy of targeting metabolic changes specific to tumor cells has yielded the potential for a very potent and highly selective therapeutic option for patients with difficult to treat malignancies. Such data suggests that the potency results in excellent and unprecedented response rates in several refractory patient populations. The high degree of selectivity for tumor vs. non-tumor cells results in a favorable safety and tolerability profile, such that the drugs may provide low intensity single agent treatment options for patients as Rafael Pharmaceuticals may have the ability to improve the efficacy of standard of care therapies with little or no incremental toxicity.

We believe the probability of improvements in safety is high, by selectively attacking metabolic processes unique to cancer and required for tumor cell survival. Further, by simultaneously attacking multiple processes that are common to the majority of cancer cell types and essential for their survival, the probability of developing local relapse or metastatic progression due to evolved resistance to CPI-613 therapy is believed to be reduced.

In addition, Rafael Pharmaceuticals has demonstrated in laboratory studies and clinical trials:

- Wide therapeutic potential across multiple tumor types and even late-stage disease: In preclinical studies and Phase I safety clinical trials to date, Rafael Pharmaceuticals' drugs have demonstrated activity in a spectrum of cancers, including hematological cancers and solid tumors, even in late-stage cancer patients who have failed multiple rounds of chemotherapy, radiation and stem cell transplantation. Assays to predict and characterize responses at the cellular level are being developed.
- A favorable safety profile.
- Multiple formulations are being developed in addition to IV infusion including oral delivery, and long-acting sustained release.
- Low-cost, efficient, and scalable manufacturing.

Clinical Results

Pancreatic Cancer: CPI-613 in Combination with Modified FOLFIRINOX in First-Line Metastatic Pancreatic Cancer.

Twenty patients were enrolled in this study. The maximum tolerated dose of CPI-613 was 500 mg/m². The median number of treatment cycles given at the maximum tolerated dose was 11. Two patients enrolled at a higher dose of 1000 mg/m², and both had a dose-limiting toxicity. No deaths due to adverse events were reported. For the 18 patients given the maximum tolerated dose, the most common grade 3–4 non-hematological adverse events were hyperglycaemia, hypokalaemia, peripheral sensory neuropathy, diarrhea, and abdominal pain. The most common grade 3–4 hematological adverse events were neutropenia, lymphopenia, anaemia, and thrombocytopenia. Sensory neuropathy (all grade 1–3) was recorded in 17 out of the 18 patients and was managed with dose de-escalation or discontinuation of oxaliplatin per standard of care. Of the 18 patients given the maximum tolerated dose, 11 (61%) achieved an objective (complete or partial) response with 19.9 months median overall survival (OS) and 9.9 months median progression-free survival (PFS). The interim result of the study was published in Lancet Oncology (Alistar et al., 2017). Given that the Phase III clinical trial evaluating the FOLFIRINOX regimen reported an Overall Response Rate (ORR) of 31.6% with Complete Remission (CR) of <1%, median OS of 11.1 months and median PFS of 6.4 months (N Engl J Med 2011;364:1817-25), the further evaluation of CPI-613 in pancreatic cancer is warranted.

Acute Myeloid Leukemia: CPI-613 in Combination with High Dose Cytarabine and Mitoxantrone in Elderly Patients with Relapsed or Refractory Acute Myeloid Leukemia (AML).

2 trials were conducted to investigate the safety and efficacy of CPI-613 in combination with high dose cytarabine and mitoxantrone (HAM) in patients with relapsed or refractory Acute Myeloid Leukemia (AML). Overall, the treatment was well tolerated. Total 67 patients dosed in this phase I study and 62 were evaluable for efficacy. In elderly patients (≥60 years or older, N =32) CPI-613 + HAM exhibited 38% Complete Remission (CR) with median overall survival (OS) of 6.9 months. In a pulled data of both phase I and phase II studies in elderly patients with relapsed or refractory AML (N = 21), of CPI-613 (2,000 mg/m²) + HAM exhibited 48% CR and 12.4 months median OS. The interim result of the study was published in Clinical Cancer Research (Pardee et al., 2018). In both the cases, CPI-613 + HAM exhibited substantially higher efficacy compared to the historical cohort of elderly patients treated with HAM alone (CR of 27% with median OS of 5.2 months (Ahmed et al, 2015).

Peripheral T-cell Lymphoma: Phase I Dose-Escalation Study of CPI-613, in Combination with Bendamustine, in Patients with Relapsed or Refractory T-cell Lymphoma

To date, 10 patients have received at least one dose of CPI-613 in combination with bendamustine. 10 patients are evaluable for safety and 7 patients for efficacy. Overall, the patients exhibited a good safety profile. The most common grade 3 or higher toxicities were lymphopenia and neutropenia. CPI-613 in combination with bendamustine also exhibited excellent efficacy profile with an ORR of 86% (CR: 43%, PR: 43%). All 3 patients with CR were diagnosed with peripheral T cell lymphoma, not otherwise specified. Although the numbers are small, continued investigation is warranted as these response rates in a poor risk population of patients with relapsed/refractory T Cell Lymphoma is very exciting.

In addition to these above mentioned three indications, Rafael Pharmaceuticals is also investigating CPI-613 in Myelodysplastic Syndrome and Burkitt's Lymphoma/Double-Hit Lymphoma and investigator sponsored study is underway for these indications.

LipoMedix

LipoMedix Pharmaceuticals Ltd. ("LipoMedix") is a development-stage, privately held, Israeli company focused on the development of an innovative, safe and effective cancer therapy based on liposome delivery.

We own ordinary shares of LipoMedix representing approximately 50.6% of the issued and outstanding ordinary shares, which were purchased in fiscal 2016-2018 for $2.4 million, as well as a $875,000 Bridge Note, which is convertible into shares of LipoMedix upon the completion of: sales an aggregate $2.0 million of additional LipoMedix equity securities; upon a Distribution Event (as defined in the March 28, 2018 Bridge Financing Agreement); or on January 6, 2020.

Science & Pre Clinical:

LipoMedix was established in order to advance the pharmaceutical and clinical development of a patented prodrug of mitomycin-C and its efficient delivery in liposomes to cancer-affected target organs. LipoMedix believes that this formulation, known as Promitil® — Pegylated Liposomal Mitomycin-C Prodrug (PL-MLP) — overcomes the problems associated with the mitomycin-C toxicity of certain current treatments and turns it into passively targeted, anti- cancer drug that could potentially become the therapy of choice in a variety of cancers. The inventor and scientific founder, of LipoMedix is Alberto Gabizon, M.D., Ph.D., of the Hebrew University — Shaare Zedek Medical Center, Israel who is also the co-inventor and co-developer of Doxil® (doxorubicin hydrochloride liposome injection), a successful and widely-used anticancer product based on a similar drug development strategy. Prof. Gabizon is one of the few scientists intimately familiar with the successful development and commercialization process of liposomal drugs.

Promitil is an innovative nanomedicine designed for controlled delivery of a chemotherapeutic agent in a proprietary prodrug form. LipoMedix believes it may have advantages over conventional anticancer agents that have serious adverse side effects, and limited efficacy with resistance to treatment. Promitil is based on an innovative and breakthrough technology that could potentially help cancer patients receive safer therapy with a more potent anti-tumor effect.

In pre-clinical trials, Promitil inhibited a range of cancer types in animal models (pancreatic, colorectal, stomach, breast, ovarian, melanoma) and potentiated the activity of a co-administered cancer drug. The API (MLP), a prodrug of mitomycin C, is carried by a pegylated liposomal delivery system that confers an extended circulation time in vivo and enhanced delivery to tumors. In pre-clinical trials, Promitil significantly reduced mitomycin-C's systemic toxicity and mitigated its side-effects. Promitil is a highly stable formulation with prolonged storage shelf life of over 4 years.

Clinical:

A total of 88 patients have been treated with Promitil as a single agent or in combination with other anticancer drugs under the framework of a phase 1 clinical study. Promitil was well tolerated and safe for use at a broad dose range. The majority of the adverse events reported were mild to moderate and unrelated to the study drug.

A Phase IA dose escalation open trial (Golan et al., "Pegylated liposomal mitomycin C prodrug enhances tolerance of mitomycin C: a phase 1 study in advanced solid tumor patients." Cancer Medicine, 4:1472–1483, 2015). has demonstrated that Promitil has successfully and substantially modified the pharmacokinetic characteristics of mitomycin C delivery, resulting in the ability to clinically administer much larger amounts of active drug (approximately 3 times greater mitomycin C-equivalent dose than the maximal tolerated dose of mitomycin C), with an acceptable toxicity profile, and with long circulation time to ensure adequate tumor drug delivery.

A Phase IB continuation trial in advanced colon cancer patients receiving Promitil as 3rd line therapy has confirmed the safety and pharmacokinetic features of Promitil in this patient population, as well as the feasibility of combining Promitil with Bevacizumab and/or Capecitabine. This stage of colon cancer has an ominous patient prognosis with median survival of approximately 5 months for untreated patients, and 6-7 months using any of the two approved therapies (Regorafenib, TAS-102), and a rate of objective partial responses (tumor shrinkage) nearly zero.

In this phase 1B study, 40% (21/52) of patients that underwent disease evaluation on week 9-12 of study showed Stable Disease (Phase 1 Clinical Study Report, data on file at LipoMedix), suggesting that Promitil activity in colon cancer is substantial, but requires confirmation in phase 2 studies. LipoMedix believes that the next development step should be to conduct a Phase 2B trial of Promitil against an active comparator (Regorafenib) using as end-points PFS (progression-free survival) and OS (overall survival), which will provide information to further test Promitil in colorectal cancer. LipoMedix believes that an approximately 100-patient strong study should determine the relative value of Promitil in colorectal carcinoma. Given the large number of patients with this condition, LipoMedix anticipates this study can be completed relatively quickly (approximate enrolment time 18 months) with centers in 4 countries only. The treatment of this patient population represents an important unmet clinical need that Promitil will attempt to fill, and for which LipoMedix intends to pursue a 505b2 NDA regulatory strategy with a 5-year exclusivity period entitled to new chemical entities.

Additional complementary plans with the LipoMedix flagship product, Promitil, include:

- Conduct exploratory trials of Promitil in combination with radiotherapy. This is a separate avenue of clinical development sprouting from preclinical observations (Tian X. et al., "Preclinical evaluation of Promitil®, a radiation-responsive liposomal formulation of mitomycin C prodrug, in chemoradiotherapy", Int. J. Rad. Oncol. Biol. Phys., 96:547-555, 2016), and from several positive responses to the combination of Promitil and radiotherapy in compassionately treated patients (Tahover et al., "Chemo-radiotherapy of oligometastases of colo-rectal cancer with pegylated liposomal mitomycin-c prodrug (Promitil): mechanistic basis and preliminary clinical experience", submitted for publication). LipoMedix plans on asking for FDA advice on the best way to maximize clinical information from these exploratory studies for regulatory purposes. A small phase 1B study protocol to test Promitil with radiotherapy in 18 cancer patients has been submitted for approval to the IRB of 2 medical sites in Israel and is scheduled to start in the fourth calendar quarter of 2018. LipoMedix has received recent approval by USPTO of a patent protecting the use of Promitil with radiotherapy.

Promitil-based products:

In addition to Promitil, LipoMedix has developed a pipeline of Promitil-based products with potentially important applications:

- Folate-targeted Promitil (Promi-Fol), aimed at local treatment (intravesical) of superficial bladder cancer. Decorating Promitil with folate ligands exploits the frequent overexpression of folate receptors in urothelial cancers for selective and enhanced delivery of Promitil to cancer cells. Promi-Fol could be a safe and effective therapeutic alternative to widely used instillation of mitomycin-c for local treatment of the growing elderly patient population with superficial bladder cancer. LipoMedix has completed a GLP animal study demonstrating the safety of Promi-Fol in the urinary bladder and is seeking a partner for sublicense of this technology and testing in clinical studies. A patent application to cover PromiFol has been submitted.

- Promi-Dox, a highly potent dual drug liposome with MLP and doxorubicin ("the "SuperDoxil") for a basket of tumors. If a strong clinical signal can be detected there are several possible cancer settings with substantial patient numbers and significant unmet need where PromiDox could be utilized. This formulation requires further product development. A patent application to cover PromiDox has been submitted.

Review and Approval of Drugs in the United States

In the United States, the FDA approves and regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and implementing regulations. The failure to comply with requirements under the FDCA and other applicable laws at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by the FDA and the Department of Justice or other governmental entities.

Each of Rafael Pharmaceuticals' and LipoMedix's (collectively, referred to as "the Pharmaceutical Investment Companies") product candidates must be approved by the FDA through a New Drug Application, or NDA. An applicant seeking approval to market and distribute a new drug product in the United States must typically undertake the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;

- submission to the FDA of an Investigational New Drug, or IND, application, which must take effect before human clinical trials may begin;

- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;

- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCP, to establish the safety and efficacy of the proposed drug product for each indication;
- preparation and submission to the FDA of a NDA requesting marketing for one or more proposed indications;
- review by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current Good Manufacturing Practices, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- payment of user fees and securing FDA approval of the NDA; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct post-approval studies.

Before an applicant begins testing a compound with potential therapeutic value in humans, the drug candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, and the purity and stability of the drug substance, as well as in vitro and animal studies to assess the potential safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. The conduct of the preclinical tests must comply with federal regulations and requirements including good laboratory practices. The sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. An IND is an exemption from the FDCA that allows an unapproved drug to be shipped in interstate commerce for use in an investigational clinical trial and a request for FDA authorization to administer an investigational drug to humans. Such authorization must be secured prior to interstate shipment and administration of any new drug that is not the subject of an approved NDA, The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA places the clinical trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a drug candidate at any time before or during clinical trials due to safety concerns or non-compliance.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all FDA IND requirements must be met unless waived. When the foreign clinical study is not conducted under an IND, the sponsor must ensure that the study complies with certain FDA regulatory requirements in order to use the study as support for an IND or application for marketing approval. Such studies must be conducted in accordance with GCP, including review and approval by an independent ethics committee, or IEC, and informed consent from subjects. The GCP requirements encompass both ethical and data integrity standards for clinical studies. The FDA's regulations are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical studies, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign studies are conducted in a manner comparable to that required for IND studies.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the objectives of the study, inclusion and exclusion criteria, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND. In addition, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects.

Human clinical trials are typically conducted in four sequential phases, which may overlap or be combined:

Phase 1. The drug is initially introduced into a small number of healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition (e.g., cancer) and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.

Phase 2. The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

Phase 3. These clinical trials are commonly referred to as "pivotal" studies, which denotes a study which presents the data that the FDA or other relevant regulatory agency will use to determine whether or not to approve a drug. The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product.

Phase 4. Post-approval studies may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or in vitro testing that suggest a significant risk in humans exposed to the drug; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure.

Concurrent with clinical trials, companies often complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, must develop methods for testing the identity, strength, quality, purity, and potency of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

If clinical trials are successful, the next step in the drug development process is the preparation and submission to the FDA of a NDA. The NDA is the vehicle through which drug applicants formally propose that the FDA approve a new drug for marketing and sale in the United States for one or more indications. The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of substantial user fees; a waiver of such fees may be obtained under certain limited circumstances.

The FDA reviews all NDAs submitted before it accepts them for filing and may request additional information rather than accepting an NDA filing. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA.

After the NDA submission is accepted for filing, the FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity. During the approval process, the FDA also will determine whether a risk evaluation and mitigation strategy, or REMS, is necessary to assure the safe use of the drug or biologic. If the FDA concludes that a REMS is needed, the sponsor of the NDA must submit a proposed REMS; the FDA will not approve the NDA without a REMS, if required.

Before approving an NDA, the FDA will typically inspect the facilities at which the product is to be manufactured. These preapproval inspections may cover all facilities associated with an NDA submission, including drug component manufacturing (e.g., active pharmaceutical ingredients), finished drug product manufacturing, and control testing laboratories. The FDA will not approve an application unless it determines that the manufacturing

processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP.

The FDA is required to refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

On the basis of the FDA's evaluation of the NDA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If a complete response letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If a product receives regulatory approval, the approval may be limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. In addition, the FDA may require Phase 4 testing which involves clinical trials designed to further assess a product's safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Fast track, breakthrough therapy and priority review designations

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs are, fast track designation, breakthrough therapy designation, and priority review designation.

Accelerated approval pathway

The FDA may grant accelerated approval to a product for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality, or IMM, and that is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. Products granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval. If post-marketing clinical studies fail to verify clinical benefit, FDA may withdraw approval.

Post-Approval Requirements

Any drug that receives FDA approval is subject to continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic

unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, suspension of the approval, or complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, and its implementing regulations, as well as the Drug Supply Chain Security Act, or DSCA, which regulate the distribution and tracing of prescription drugs and prescription drug samples at the federal level, and set minimum standards for the regulation of drug distributors by the states. The PDMA, its implementing regulations and state laws limit the distribution of prescription pharmaceutical product samples, and the DSCA imposes requirements to ensure accountability in distribution and to identify and remove counterfeit and other illegitimate products from the market.

Abbreviated new drug applications for generic drugs

In 1984, with passage of the Hatch-Waxman Amendments to the FDCA, Congress established an abbreviated regulatory scheme authorizing the FDA to approve generic drugs that are shown to contain the same active ingredients as, and to be bioequivalent to, drugs previously approved by the FDA pursuant to NDAs. To obtain approval of a generic drug, an applicant must submit an abbreviated new drug application, or ANDA, to the agency. An ANDA is a comprehensive submission that contains, among other things, data and information pertaining to the active pharmaceutical ingredient, bioequivalence, drug product formulation, specifications and stability of the generic drug, as well as analytical methods, manufacturing process validation data and quality control procedures. ANDAs are "abbreviated" because they generally do not include preclinical and clinical data to demonstrate safety and effectiveness. Instead, in support of such applications, a generic manufacturer may rely on the preclinical and clinical testing previously conducted for a drug product previously approved under an NDA, known as the reference-listed drug, or RLD.

505(b)(2) NDAs

As an alternative path to FDA approval for modifications to formulations or uses of products previously approved by the FDA pursuant to an NDA, an applicant may submit an NDA under Section 505(b)(2) of the FDCA.

Section 505(b)(2) was enacted as part of the Hatch-Waxman Amendments and permits the filing of an NDA where at least some of the information required for approval comes from studies not conducted by, or for, the applicant. If the 505(b)(2) applicant can establish that reliance on FDA's previous findings of safety and effectiveness is scientifically and legally appropriate, it may eliminate the need to conduct certain preclinical or clinical studies of the new product. The FDA may also require companies to perform additional studies or measurements, including clinical trials, to support the change from the previously approved reference drug. The FDA may then approve the new product candidate for all, or some, of the label indications for which the reference drug has been approved, as well as for any new indication sought by the 505(b)(2) applicant.

Pediatric studies and exclusivity

Under the Pediatric Research Equity Act, an NDA or supplement thereto must contain data that are adequate to assess the safety and effectiveness of the drug product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. With enactment of FDASIA 2012, sponsors must also submit pediatric study plans prior to the assessment data. Those plans must contain an outline of the proposed pediatric study or studies the applicant plans to conduct, including study objectives and design, any deferral or waiver requests, and any other information required by regulation. The applicant, the FDA, and the FDA's internal review committee must then review the information submitted, consult with each other, and agree upon a final plan. The FDA or the applicant may request an amendment to the plan at any time. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Additional requirements and procedures relating to deferral requests and requests for extension of deferrals are contained in FDASIA. Unless and until FDA promulgates a regulation stating otherwise, the pediatric data requirements do not apply to products with orphan designation.

Orphan drug designation and exclusivity

Under the Orphan Drug Act, the FDA may designate a drug product as an "orphan drug" if it is intended to treat a rare disease or condition, generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for treatment of the disease or condition will be recovered from sales of the product. A company must request orphan drug designation before submitting an NDA for the drug and rare disease or condition. If the request is granted, the FDA will disclose the identity of the therapeutic agent and its potential use. Orphan drug designation does not shorten the PDUFA goal dates for the regulatory review and approval process, although it does convey certain advantages such as tax benefits and exemption from the PDUFA application fee. The first applicant to obtain approval of an orphan drug is eligible for seven years of exclusivity during which FDA may not approve another drug with the same active ingredient for the approved orphan indication unless the subsequent product is shown to be clinically superior.

Patent term restoration and extension

A patent claiming a new drug product or its method of use may be eligible for a limited patent term extension, also known as patent term restoration, under the Hatch-Waxman Act, which permits a patent restoration of up to five years for patent term lost during product development and the FDA regulatory review. Patent term extension is generally available only for drug products whose active ingredient has not previously been approved by the FDA. The restoration period granted is typically one-half the time between the effective date of an IND and the submission date of an NDA, plus the time between the submission date of an NDA and the ultimate approval date. Patent term extension cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved drug product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple drugs for which approval is sought can only be extended in connection with one of the approvals. The United States Patent and Trademark Office reviews and approves the application for any patent term extension in consultation with the FDA.

FDA approval and regulation of companion diagnostics

If safe and effective use of a therapeutic depends on an *in vitro* diagnostic, then the FDA generally will require approval or clearance of that diagnostic, known as a companion diagnostic, at the same time that the FDA approves

the therapeutic product. In August 2014, the FDA issued final guidance clarifying the requirements that will apply to approval of therapeutic products and *in vitro* companion diagnostics. According to the guidance, for novel drugs, a companion diagnostic device and its corresponding therapeutic should be approved or cleared contemporaneously by the FDA for the use indicated in the therapeutic product's labeling.

Review and Approval of Drugs in Europe and other Foreign Jurisdictions

In addition to regulations in the United States, a manufacturer is subject to a variety of regulations in foreign jurisdictions to the extent they choose to sell any drug products in those foreign countries. Even if a manufacturer obtains FDA approval of a product, it must still obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. To obtain regulatory approval of an investigational drug or biological product in the European Union, a manufacturer must submit a marketing authorization application to the European Medicines Agency or EMA. For other countries outside of the European Union, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, clinical trials are to be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Even if our product candidate is approved, sales of our products will depend, in part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, such products. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. Such reforms could have an adverse effect on anticipated revenue from product candidates that the Pharmaceutical Investment Companies may successfully develop and for which they may obtain marketing approval and may affect their overall financial condition and ability to develop product candidates.

Healthcare Law and Regulation

In addition to FDA restrictions on marketing of drug products, federal and state fraud and abuse laws restrict business practices in the pharmaceutical industry. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs;
- the federal False Claims Act, which prohibits any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal laws that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the civil monetary penalties statute, which imposes penalties against any person who is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent;
- the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, information related to payments and other transfers of value made by that entity to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers.
- state laws requiring pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Our Strategy

Real Estate

Our strategy related to our real estate business includes:

- capitalizing on knowledge of the marketplaces to enhance its leasing and property management capabilities in order to achieve stabilized occupancy.
- attracting additional tenants to its buildings and public parking garage;
- selectively seeking to acquire properties to create incremental cash flow and capital appreciation; and
- executing timely monetizations through sales or joint ventures of current holdings.

Pharmaceutical Investments

We plan to continue to invest in Rafael Pharmaceuticals and LipoMedix, as approved by our Board and deemed strategic, in order for those companies to execute on their plans and continue clinical trials as warranted by results and developments while continuing to seek other opportunities to invest in additional pharmaceutical or biotechnologies companies.

Rafael Pharmaceuticals

The mission of Rafael Pharmaceuticals is to develop innovative, highly selective, well tolerated and highly effective anti-cancer agents by selectively targeting altered metabolism in cancer cells.

Rafael's immediate goal is, along with selected hematological malignancies, to improve the quality of life of patients with Pancreatic Cancer, which is the deadliest cancer worldwide with very limited treatment options.

As per Rahib et al, 2014; Pancreatic Cancer will surpass breast, prostate, and colorectal cancers by 2030 and will become the second leading causes of cancer-related death. Since 1997, the median overall survival following standard frontline therapies in metastatic Pancreatic Cancer has increase from 6.8 months (Gemcitabine) to 11.1 months (FOLFIRINOX) (N Engl J Med 2011;364:1817-25. N Engl J Med 2013;369:1691-703). As per several expert's opinion, Pancreatic cancer is considered to be an immune-resistant disease and 95% of patients can't take immunotherapy advantage. Currently there no effective approach to turn Pancreatic tumor from immunologically "cold" to "hot" (Cancers 2018, 10, 39).

In an early stage trial (phase I), CPI-613 in combination with modified FOLFIRINOX has exhibited very promising signal of efficacy with 19.9 months overall survival. The combination was also well tolerated. Given this favorable safety and efficacy profiles, further evaluation of CPI-613 in pancreatic cancer was warranted.

The median age of diagnosis of AML is between 68 and 72 years. These diagnoses in older adults are projected to increase 38% by 2031. AML in the elderly is more aggressive and less responsive to therapy than in younger patients. For nearly 40 years, use of an anthracycline with cytarabine has constituted the backbone of remission induction therapy. However, most elderly patients who achieve a CR eventually relapse and die from AML. With more than 50% of elderly AML patients experiencing relapse, they will require second-line therapy. But there is no consensus regarding the optimal treatment of elderly AML patients with relapsed or refractory AML and little clinical data on which to base recommendations (Leuk Res. 2015 September; 39(9): 945–949).

As a part of the immediate goal of the company, Rafael has recently (October 2018) initiated phase III pivotal trial of CPI-613 in combination with modified FOLFIRINOX for first line metastatic Pancreatic Cancer patients and another phase III pivotal trial of CPI-613 in combination with cytarabine and mitoxantrone in elderly patients with relapsed or refractory AML.

The goal of these trials are to provide compelling evidence of the safety and efficacy and leading to a regulatory approval for CPI-613 for use in patients with metastatic adenocarcinoma of pancreas and elderly patients with relapsed or refractory AML and to address serious medical unmet needs for this indication. With the current plan, if the clinical trials are successful, Rafael Pharmaceuticals anticipates that CPI-613 will get approval for pancreatic cancer and acute myeloid leukemia by 2020 – 2022.

In addition to these pivotal trials, as a part of Rafael's immediate goal to become a Pancreatic Cancer company, we have initiated/planned the following trials:

- Phase I study of CPI-613 in combination gemcitabine and nab-paclitaxel in patients with metastatic or locally advanced Pancreatic Adenocarcinoma (Initiated)
- Neoadjuvant therapy of CPI-613 in combination with modified FOLFIRINOX in patients with locally advanced Pancreatic Adenocarcinoma (Planned)
- In the near future, Rafael has a plan to initiate cross over study of CPI-613 in combination with FOLFIRINOX and gemcitabine as a second line therapy to Pancreatic Cancer
- In the future, Rafael will also investigate CPI-613 in combination with immuno-oncology therapies

And like this, Rafael will investigate CPI-613 in all segments of pancreatic adenocarcinoma.

Beyond the immediate goal, Rafael also has a midterm and long term goals. The midterm goal of the company is to become a Gastrointestinal (GI) Cancer company by extending and enhancing the lives of patients with GI cancer and finally, the long-term goal is to become a mitochondrial company and go beyond oncology.

With this aim, Rafael has also initiated a phase I trial of CPI-613 in combination with Fluorouracil in patients with relapsed or refractory metastatic Colorectal Cancer and has a plan to initiate a phase I trial of CPI-613 in combination with FOLFOX and Avastin for Metastatic Colorectal Cancer.

LipoMedix

The strategy for LipoMedix is as follows:

1. Continue clinical development of Promitil for advanced colon cancer within a phase 2B. This study, comparing Promitil (66 patients) to regorafenib (33 patients), is projected under an IND of the FDA and will likely take place in the USA, Eastern Europe and Israel. After a sentinel group of 15 patients, as required by the FDA, LipoMedix will consider modifying the Promitil arm or adding a combination arm of Promitil with capecitabine to the study.

2. In parallel, conduct exploratory trials of Promitil in combination with radiotherapy in Israel and the USA, after consultation with the FDA on the best regulatory path for approval.

3. Continue research and development, toxicity, and product development of LipoMedix's pipeline aiming at out-licensing for Folate-targeted Promitil (PromiFol) and PromiDox.

4. Strengthening the I.P. to cover the product manufacturing process, and securing the robustness of the manufacturing process.

Competition

With respect to our real estate business, we compete for commercial (office and retail) tenants in the areas our buildings are located. The commercial real estate market is highly competitive. Numerous commercial properties compete with us for tenants based on location, rental rates, tenant allowances, operating expenses and the quality and design of the property. Other factors tenants consider are; quality and breadth of tenant services provided, onsite amenities and reputation of the owner and property manager.

There is also competition to acquire real estate, including competition from domestic and foreign financial institutions, REITs, life insurance companies, pension trusts, trust funds, partnerships, individual investors and others. Should we decide to dispose of a property, we will also be in competition with sellers of comparable properties seeking suitable purchasers.

The pharmaceutical and biotechnology industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While Rafael Pharmaceuticals believes that Rafael Pharmaceuticals' technology, development experience and scientific knowledge provide us with competitive advantages, Rafael Pharmaceuticals faces potential competition from many different companies, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions and governmental agencies and public and private research institutions. Any product candidates that Rafael Pharmaceuticals successfully develops and commercializes will compete with existing therapies and new therapies that may become available in the future.

Rafael Pharmaceuticals competes in the segments of the pharmaceutical, biotechnology and other related markets that address cancer metabolism. There are other companies working to develop therapies in the field of cancer metabolism. These companies include divisions of large pharmaceutical companies and biotechnology companies of various sizes. These companies include large pharmaceutical companies, including AstraZeneca plc, Eli Lilly and Company, Roche Holdings Inc. and its subsidiary Genentech, Inc., GlaxoSmithKline plc, Merck & Co., Novartis, Pfizer, Inc., and Genzyme, a Sanofi company. There are also biotechnology companies of various sizes that are developing therapies to target cancer metabolism, including: 3V Biosciences, Threshold Pharmaceuticals, Eleison Pharmaceuticals, Forma Therapeutics, Alexion Pharmaceuticals, Inc., BioMarin Pharmaceutical Inc., Calithera Biosciences, Inc., Agios Pharmaceuticals, Inc., Forma Therapeutics Holdings LLC, Shire Biochem Inc., Raze Therapeutics, Inc. and Selvita S.A.

LipoMedix faces competition from (i) other liposome and nanomedicine products in solid tumors (for example, Doxil (Janssen), Onivyde (Ipsen), Abraxane (Celgene)); (ii) other non-liposomal chemotherapeutic drugs in gastrointestinal malignancies recently developed or under development (for example, TAS-102 (Taiho) in colorectal cancer); (iii) biological therapy (mostly small molecule kinase inhibitors) recently developed or under development for colon cancer (for example (Regorafenib (Bayer)); (iv) immunotherapy approaches in gastrointestinal malignancies (for example Merck USA): antibodies (and/or vaccinations); and (v) large companies such as Roche.

Intellectual Property

Licenses

Rafael Pharmaceuticals maintain an exclusive license agreement with the Research Foundation of the State University of New York at Stony Brook, or RF, granting Rafael Pharmaceuticals the exclusive right to make, use and sell products covered under specified RF patents relating to lipoic acid derivatives with the right to grant sublicenses. This license agreement was subsequently amended in 2004, 2007 and 2017 and relates to Rafael's AMD class of compounds.

LipoMedix maintains an exclusive license agreement with Yissum Research and Development Company (Yissum), the technology transfer arm of the Hebrew University of Jerusalem granting LipoMedix the exclusive right to make, use and sell products covered under specified patents relating to the mitomycin lipophilic prodrug and its liposomal formulation with the right to grant sublicenses.

Patents

Rafael Pharmaceuticals patents its technology, inventions, and improvements that it considers important to the development of its business. A patent gives the patent holder the right to exclude any unauthorized use of the subject matter of the patent in those jurisdictions in which a patent is granted. As of July 2018, Rafael Pharmaceuticals owns or in-licenses over ten U.S. patents, over forty foreign patents registered in various countries, and many U.S. and foreign patent applications. Additional patent applications will be filed as studies continue. Patents that Rafael Pharmaceuticals has obtained for its platform technologies and patents that may issue in the future based on Rafael Pharmaceuticals' currently pending patent applications for its platform technologies are scheduled to expire in years 2028 through 2039. These dates do not include patent term extensions or other extensions that will likely be available. Rafael Pharmaceuticals has worldwide rights and has obtained U.S. orphan drug designations for CPI-613 in the treatment of MDS, AML, pancreatic carcinoma, Burkitt's lymphoma, and peripheral T-cell lymphoma.

LipoMedix has four USPTO granted patents. Two of them are licensed from Yissum: 1. Patent WO2000/064484 (filed April 2000: expected 20-year expiry term April 2020) "Conjugate having Cleavable Linkage for use in a Liposome" This patent relates to conjugates of a hydrophobic moiety (such as a lipid) linked through a cleavable dithiobenzyl linkage to a therapeutic agent (such as MMC). 2. Patent WO2004/110497 (filed April 2004: expected 20-year expiry term 2024) "Mitomycin Conjugates Cleavable by Thiols" or "Method for Treating Multi-Drug Resistant Tumors". This patent relates to a method for administering Mitomycin-C to a multi-drug resistant cell by using a liposome, and a method for reducing the in vivo cytotoxicity of Mitomycin-C using a liposome composition. Two additional patents, covering the combination of Promitil with other chemotherapies and with radiotherapy, have been recently granted and have 20-year expiry term in 2036. In addition, LipoMedix has two published international patent applications covering the application of Promitil to the local treatment of bladder tumors (Folate-targeted Promitil or PromiFol), and its co-encapsulation with doxorubicin (PromiDox, the "SuperDoxil").

Manufacturing

The Pharmaceutical Investment Companies do not own or operate, and currently have no plans to establish, any manufacturing or fill-and-finish facilities. The Pharmaceutical Investment Companies currently rely, and expect to continue to rely, on third parties for the manufacture of their product candidates for preclinical and clinical testing, as well as for commercial manufacture of any products that they may commercialize. The Pharmaceutical Investment Companies obtain our supplies from these established contract manufacturers on a purchase order basis and do not have a long-term supply arrangement in place. The Pharmaceutical Investment Companies do not currently have arrangements in place for redundant supply for bulk drug substance or drug product. For all of the product candidates, the Pharmaceutical Investment Companies intend to identify and qualify additional manufacturers to provide the active pharmaceutical ingredient and the formulation and fill-and-finish services prior to submission of a new drug application to the FDA or along the first steps of marketing.

For Rafael Pharmaceuticals, the compounds are organic compounds of low molecular weight, generally called small molecules. They can be manufactured in reliable and reproducible synthetic processes from readily available starting materials. The chemistry is amenable to scale-up and does not require unusual equipment in the manufacturing process. Rafael Pharmaceuticals expects to continue to develop drug candidates that can be produced cost-effectively at contract manufacturing facilities.

LipoMedix's Promitil and other pipeline candidates, are based on an active pharmaceutical ingredient (API) referred to as MLP (abbreviation of mitomycin-C lipid-based prodrug) that is formulated into customized nanoparticles. These nanoparticles consist of lipids and a polyethylene-glycol (PEG) polymer and are known as pegylated liposomes. MLP is currently synthesized by a third party using a proprietary, reliable and reproducible synthetic process from readily available raw materials. The MLP API is then shipped to another third-party facility specialized in liposome manufacture for clinical use. In principle, a single batch of API can serve for manufacture of several batches of Promitil liposomes.

The Pharmaceutical Investment Companies generally expect to rely on third parties for the manufacture of any companion diagnostics they develop.

Research and Development

We incurred research and development costs in the amount of $995,000, $0and $0 during fiscal 2018, fiscal 2017 and fiscal 2016, respectively.

Employees

As of October 15, 2018, we had 14 part and full time employees dedicated to the real estate group and corporate entity, while Rafael Pharmaceuticals employs 16 full-time and 3 part time employees, as well as part, who are involved in operations, research and development and LipoMedix employs two full-time employees and two part-time employees involved in operations, research and development, in addition to Gabizon's CEO/CSO position.

Item 1A. Risk Factors.

RISK FACTORS

Our business, operating results or financial condition could be materially adversely affected by any of the following risks associated with any one of our businesses, as well as the other risks highlighted elsewhere in this document, particularly the discussions about competition. The trading price of our common stock could decline due to any of these risks. Note that references to "our", "us", "we", "the Company", etc. used in each risk factor below refers to the business about which such risk factor is provided.

Risks Related to the Business

Risk Related to our Real Estate Assets

Economic, regulatory, and socio-economic changes that impact the real estate market generally, or that could affect patterns of use of commercial office space, may cause our operating results to suffer and decrease the value of our real estate properties.

If our properties do not generate income sufficient to meet operating expenses, including debt service and capital expenditures, it may cause our operating results to suffer and decrease the value of our real estate properties. The following factors, among others, may adversely affect the operating performance and long- or short-term value of our properties:

- changes in the national, regional, and local economic climates, particularly in markets in which we have our properties;
- local office submarket conditions such as changes in the supply of, or demand for, space in properties similar to those that we own within a particular area;
- changes in the patterns of office use due to technological advances which may make telecommuting more prevalent;
- the attractiveness of our properties to potential tenants;
- changes in interest rates and availability of permanent mortgage funds that may render the sale of a property difficult or unattractive;
- the financial stability of our tenants, including bankruptcies, financial difficulties or lease defaults by our tenants;
- changes in operating costs and expenses, including costs for maintenance (planned and unplanned), insurance and real estate taxes, and our ability to control rents in light of such changes;
- the need to periodically fund the costs to repair, renovate and re-lease space;
- earthquakes, tornadoes, hurricanes and other natural disasters, civil unrest, terrorist acts or acts of war, which may result in uninsured or underinsured losses;
- changes in, or increased costs of compliance with, governmental regulations, including those governing usage, zoning, the environment and taxes; and
- changes in accounting standards.

Any of these factors may prevent us from maintaining the value of our real estate properties.

The geography of our real estate holdings may make us particularly susceptible to adverse economic developments in the real estate markets of those areas.

In addition to general, regional and national economic conditions, our operating results are impacted by the economic conditions in New Jersey and Israel. Any adverse economic or real estate developments in New Jersey or Israel, such as business layoffs or downsizing, industry slowdowns, relocations of businesses, changing

demographics and other factors, or any decrease in demand for office space resulting from the local business climate, could adversely affect our property revenue, and hence net operating income.

Our real estate is all commercial property and may leave our profitability vulnerable to a downturn in that sector.

All of our properties are commercial real estate. As a result, we are subject to risks inherent in operating a single type of property. The impact of the downturn in demand for office properties has been more pronounced than if we owned a more fully diversified portfolio of real estate properties.

An increase in real estate taxes may decrease our net operating income from properties.

Generally, from time to time our property taxes may increase as property values or assessment rates change or for other reasons deemed relevant by the assessors. An increase in the assessed valuation of a property for real estate tax purposes results in an increase in the related real estate taxes on that property. Although some tenant leases may permit us to pass through the tax increases to the tenants for payment, there is no assurance that renewal leases or future leases will be negotiated on the same basis and we may be responsible for these increases as well as unleased portions of the properties. Increases not passed through to tenants will adversely affect our net operating income and our cash available to pay distributions, if any.

We may suffer uninsured losses relating to real property or pay excessively expensive premiums for insurance coverage.

Although we attempt to ensure that all of our properties are adequately insured to cover casualty losses, there are certain types of losses, generally catastrophic in nature, such as losses due to wars, acts of terrorism, earthquakes, floods, hurricanes, pollution or environmental matters, which are uninsurable or not economically insurable, or may be insured subject to limitations, such as large deductibles or co-payments. Insurance risks associated with potential terrorist acts could sharply increase the premiums we pay for coverage against property and casualty claims. Mortgage lenders generally insist that specific coverage against terrorism be purchased by commercial property owners as a condition for providing mortgage, bridge or mezzanine loans. We cannot be certain that this coverage will continue to be available, or available at reasonable cost, if at all, which could inhibit our ability to finance or refinance our properties. We may be required to provide other financial support, either through financial assurances or self-insurance, to cover potential losses. We cannot assure you that we will have adequate coverage for any losses we may suffer. In addition, other than any capital reserve we may establish, we will have limited sources of funding to repair or reconstruct any uninsured damaged property, and we cannot assure you that those reserves will be sufficient.

We are dependent on IDT, Genie and their other affiliates for a large portion of our revenue and the loss of, or a significant reduction in revenue from IDT and its affiliates would reduce our revenue and adversely impact our results of operations.

We have generated majority of our revenue from IDT and its affiliates. In the fiscal year ended July 31, 2018, IDT and its affiliates accounted for approximately 51% of our revenue. This decrease in concentration was primarily the result of a decrease in revenues from IDT and its affiliates due to modification of the terms of the leases. The loss of, or a significant reduction in, revenue from IDT and its affiliates would materially and adversely affect our revenue and results of operations.

The cost of complying with environmental and other governmental laws and regulations may adversely affect us.

All real property and the operations conducted on real property are subject to federal, state and local laws and regulations (including those of foreign jurisdictions) relating to environmental protection and human health and safety. These laws and regulations generally govern wastewater discharges, air emissions, the operation and removal of underground and above-ground storage tanks, the use, storage, treatment, transportation and disposal of solid and hazardous materials, and the remediation of contamination associated with disposals. We also are required to comply with various local, state and federal fire, health, life-safety and similar regulations. Some of these laws and regulations may impose joint and several liability on tenants or owners for the costs of investigating or remediating contaminated properties. These laws and regulations often impose liability whether or not the owner knew of, or was responsible for, the presence of the hazardous or toxic substances. The cost of removing or remediating could be

substantial. In addition, the presence of these substances, or the failure to properly remediate these substances, may adversely affect our ability to sell or rent a property or to use the property as collateral for borrowing.

Environmental laws and regulations also may impose restrictions on the manner in which properties may be used or businesses may be operated, and these restrictions may require substantial expenditures by us. Environmental laws and regulations provide for sanctions in the event of noncompliance and may be enforced by governmental agencies or, in certain circumstances, by private parties. Third parties may seek recovery from owners of real properties for personal injury or property damage associated with exposure to released hazardous substances. Compliance with new or more stringent laws or regulations or stricter interpretations of existing laws may require material expenditures by us. For example, various federal, regional and state laws and regulations have been implemented or are under consideration to mitigate the effects of climate change caused by greenhouse gas emissions. Among other things, "green" building codes may seek to reduce emissions through the imposition of standards for design, construction materials, water and energy usage and efficiency, and waste management. We are not aware of any such existing requirements that we believe will have a material impact on our current operations. However, future requirements could increase the costs of maintaining or improving our existing properties or developing new properties.

Our costs associated with complying with the Americans with Disabilities Act may affect cash available for our operations or to pay distributions or make additional investments.

Our real properties are generally subject to the Americans with Disabilities Act of 1990, as amended. Under this Act, all places of public accommodation are required to comply with federal requirements related to access and use by disabled persons. The Act has separate compliance requirements for "public accommodations" and "commercial facilities" generally requiring that buildings and services be made accessible and available to people with disabilities. The Act's requirements could require removal of access barriers and could result in the imposition of injunctive relief, monetary penalties or, in some cases, an award of damages. We attempt to acquire properties that comply with the Act or any relevant law or regulation of a foreign jurisdiction or place the burden on the seller or other third-party, such as a tenant, to ensure compliance with those laws or regulations. However, we cannot assure you that we will be able to acquire properties or allocate responsibilities in this manner.

We may be unable to renew leases or relet space as leases expire.

If tenants decide not to renew their leases upon expiration, we may not be able to relet the space. Even if tenants do renew or we can relet the space, the terms of a renewal or new lease, taking into account among other things, the cost of improvements to the property and leasing commissions, may be less favorable than the terms in the expired leases. In addition, changes in space utilization by tenants may impact our ability to renew or relet space without the need to incur substantial costs in renovating or redesigning the internal configuration of the relevant property. If we are unable to promptly renew the leases or relet the space at similar rates or if we incur substantial costs in renewing or reletting the space, our cash flow and ability to service debt obligations and pay dividends and distributions to security holders could be adversely affected.

We face significant competition for tenants.

The leasing of real estate is highly competitive. The principal competitive factors are rent, location, services provided and the nature and condition of the property to be leased. We directly compete with all owners, developers and operators of similar space in the areas in which our properties are located. Our commercial office properties are concentrated in New Jersey. There are number of competitive office properties in which our properties are located, which may be newer or better located than our properties and could have a material adverse effect on our ability to lease office space at our properties, and on the effective rents we are able to charge.

We face risks associated with property acquisitions.

We may acquire interests in properties, individual properties and portfolios of properties, including large portfolios that could significantly increase our size and alter our capital structure. Our acquisition activities may be exposed to, and their success may be adversely affected by, the following risks:

- we may be unable to meet required closing conditions;
- we may be unable to finance acquisitions and developments of properties on favorable terms or at all;

- we may be unable to lease our acquired properties on the same terms or to the same level of occupancy as our existing properties;
- acquired properties may fail to perform as we expected;
- we may expend funds on, and devote management time to, acquisition opportunities which we do not complete, which may include non-refundable deposits;
- our estimates of the costs we incur in renovating, improving, developing or redeveloping acquired properties may be inaccurate;
- we may not be able to obtain adequate insurance coverage for acquired properties; and
- we may be unable to quickly and efficiently integrate new acquisitions and developments, particularly acquisitions of portfolios of properties, into our existing operations, and therefore our results of operations and financial condition could be adversely affected.

We may acquire properties subject to both known and unknown liabilities and without any recourse, or with only limited recourse to the seller. As a result, if a liability were asserted against us arising from our ownership of those properties, we might have to pay substantial sums to settle it, which could adversely affect our cash flow. Unknown liabilities with respect to properties acquired might include:

- claims by tenants, vendors or other persons arising from dealing with the former owners of the properties;
- liabilities incurred in the ordinary course of business;
- claims for indemnification by general partners, directors, officers and others indemnified by the former owners of the properties; and
- liabilities for clean-up of undisclosed environmental contamination.

Competition for acquisitions may reduce the number of acquisition opportunities available to us and increase the costs of those acquisitions.

We may face competition for acquisition opportunities from other investors, particularly those investors who are willing to incur more leverage, and this competition may adversely affect us by subjecting us to the following risks:

- an inability to acquire a desired property because of competition from other well-capitalized real estate investors, including publicly traded and privately held REITs, private real estate funds, domestic and foreign financial institutions, life insurance companies, sovereign wealth funds, pension trusts, partnerships and individual investors; and
- an increase in the purchase price for such acquisition property.

If we are unable to successfully acquire additional properties, our ability to grow our business could be adversely affected. In addition, increases in the cost of acquisition opportunities could adversely affect our results of operations.

Risks Related to our Pharmaceutical Industry Investments

Our pharmaceutical investments may not be able to develop any medicines of commercial value.

Any drug that companies develop in preclinical and clinical studies, may not be able to succeed in demonstrating safety and efficacy of the product candidate in human clinical trials. Screening for and identifying product candidates may not result in the discovery and development of commercially viable medicines to treat cancer and other illnesses the failure of which would harm to our pharmaceutical investments.

The pharmaceutical investment companies may not be successful in their efforts to identify or discover potential product candidates.

The key elements of Rafael Pharmaceuticals' and LipoMedix's (collectively, referred to as "the Pharmaceutical Investment Companies") strategy are for Rafael Pharmaceuticals to identify and test compounds that target alterations found in the enzymes of cancer cells related to its production of energy widely known as cancer metabolism, and for LipoMedix to find drug carrier systems such as liposomes or other nanoparticles to deliver effectively and safely powerful anticancer compounds for which minimizing toxicity is critical. A significant portion of the research that the Pharmaceutical Investment Companies are conducting involves new compounds and drug discovery methods and suitable drug delivery systems, including the Pharmaceutical Investment Companies' proprietary technology. The drug discovery that the Pharmaceutical Investment Companies are conducting using the Pharmaceutical Investment Companies' proprietary technology may not be successful in identifying compounds that are useful in treating cancer. The Pharmaceutical Investment Companies' research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for a number of reasons, including:

- the research methodology used may not be successful in identifying appropriate biomarkers, potential product candidates or effective carrier systems to confer a drug delivery advantage.
- potential product candidates may, on further study, be shown to not be effective, have harmful side effects or other characteristics that indicate that they are unlikely to be medicines that will receive marketing approval and achieve market acceptance.

Research programs to identify new product candidates require substantial technical, financial and human resources. The Pharmaceutical Investment Companies may choose to focus the Pharmaceutical Investment Companies' efforts and resources on a potential product candidate that ultimately proves to be unsuccessful.

If the Pharmaceutical Investment Companies are unable to identify suitable compounds for preclinical and clinical development, the Pharmaceutical Investment Companies will not be able to obtain product revenue in future periods, which likely would result in significant harm to the Pharmaceutical Investment Companies' financial position and adversely impact the Pharmaceutical Investment Companies' valuation.

If clinical trials of the Pharmaceutical Investment Companies' product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, the Pharmaceutical Investment Companies may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of the Pharmaceutical Investment Companies' product candidates.

The Pharmaceutical Investment Companies, and any collaborators, are not permitted to commercialize, market, promote or sell any product candidate in the United States without obtaining marketing approval from the United States Food and Drug Administration (FDA). Foreign regulatory authorities, such as the European Medicines Agency, or the EMA, impose similar requirements. The Pharmaceutical Investment Companies have not previously submitted a new drug application, or NDA, to the FDA or similar drug approval filings to comparable foreign regulatory authorities for any of the Pharmaceutical Investment Companies' product candidates. Before obtaining marketing approval from regulatory authorities for the sale of the Pharmaceutical Investment Companies' product candidates, the Pharmaceutical Investment Companies must conduct extensive clinical trials to demonstrate the safety and efficacy of the Pharmaceutical Investment Companies' lead product candidates in humans as well as extensive preclinical development followed by extensive human clinical trials for any future candidates.

Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. The Pharmaceutical Investment Companies cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. The clinical development of the Pharmaceutical Investment Companies' product candidates is susceptible to the risk of failure inherent at any stage of product development, including failure to demonstrate efficacy in a clinical trial or across a broad population of patients, the occurrence of adverse events that are severe or medically or commercially unacceptable, failure to comply with protocols or applicable regulatory requirements and determination by the FDA or any comparable foreign regulatory authority that a product candidate may not continue development or is not approvable. It is possible that even if one or more of the Pharmaceutical Investment Companies' product candidates has a beneficial effect, that effect

will not be detected during clinical evaluation as a result of one or more of a variety of factors, including the size, duration, design, measurements, conduct or analysis of the Pharmaceutical Investment Companies' clinical trials. Conversely, as a result of the same factors, the Pharmaceutical Investment Companies' clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in the Pharmaceutical Investment Companies' clinical trials the Pharmaceutical Investment Companies may fail to detect toxicity of or intolerability caused by the Pharmaceutical Investment Companies' product candidates, or mistakenly believe that the Pharmaceutical Investment Companies' product candidates are toxic or not well tolerated when that is not in fact the case.

Any inability to successfully complete preclinical and clinical development could result in additional costs to the Pharmaceutical Investment Companies, or any future collaborators, and impair the Pharmaceutical Investment Companies' ability to generate revenue from product sales, regulatory and commercialization milestones and royalties. Moreover, if the Pharmaceutical Investment Companies or the Pharmaceutical Investment Companies' collaborators are required to conduct additional clinical trials or other testing of the Pharmaceutical Investment Companies' product candidates beyond those that the Pharmaceutical Investment Companies currently contemplate, if the Pharmaceutical Investment Companies or the Pharmaceutical Investment Companies' collaborators are unable to successfully complete clinical trials of the Pharmaceutical Investment Companies' product candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, the Pharmaceutical Investment Companies or the Pharmaceutical Investment Companies' collaborators may:

- be delayed in obtaining marketing approval for the Pharmaceutical Investment Companies' product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the medicine removed from the market after obtaining marketing approval.

The Pharmaceutical Investment Companies' failure to successfully complete clinical trials of the Pharmaceutical Investment Companies' product candidates and to demonstrate the efficacy and safety necessary to obtain regulatory approval to market any of the Pharmaceutical Investment Companies' product candidates would significantly harm our investment.

If the Pharmaceutical Investment Companies, or any collaborators, experience any of a number of possible unforeseen events in connection with clinical trials of the Pharmaceutical Investment Companies' product candidates, potential clinical development, marketing approval or commercialization of the Pharmaceutical Investment Companies' product candidates could be delayed or prevented.

The Pharmaceutical Investment Companies or their collaborators may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent the Pharmaceutical Investment Companies' ability to receive marketing approval or commercialize the Pharmaceutical Investment Companies' product candidates, including:

- regulators or institutional review boards may not authorize the Pharmaceutical Investment Companies or their collaborators or investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- the Pharmaceutical Investment Companies or their collaborators may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- clinical trials of the Pharmaceutical Investment Companies' product candidates may produce negative or inconclusive results, and the Pharmaceutical Investment Companies or their collaborators may decide, or regulators may require them, to conduct additional clinical trials or abandon product development programs;

- the number of patients required for clinical trials of the Pharmaceutical Investment Companies' product candidates may be larger than they anticipate; enrollment in these clinical trials, which may be particularly challenging for some of the orphan diseases the Pharmaceutical Investment Companies target in their programs, may be slower than the Pharmaceutical Investment Companies anticipate; or participants may drop out of these clinical trials at a higher rate than they anticipate;
- third-party contractors used by the Pharmaceutical Investment Companies' or their collaborators may fail to comply with regulatory requirements or meet their contractual obligations in a timely manner, or at all;
- the Pharmaceutical Investment Companies or their collaborators might have to suspend or terminate clinical trials of the Pharmaceutical Investment Companies' product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks;
- regulators, institutional review boards, or the data safety monitoring board for such trials may require that the Pharmaceutical Investment Companies, their collaborators or their investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of the Pharmaceutical Investment Companies' product candidates may be greater than anticipated;
- the supply or quality of the Pharmaceutical Investment Companies' product candidates or other materials necessary to conduct clinical trials of the Pharmaceutical Investment Companies' product candidates may be insufficient or inadequate;
- the Pharmaceutical Investment Companies' product candidates may have undesirable side effects or other unexpected characteristics, causing the Pharmaceutical Investment Companies, their collaborators or their investigators, regulators or institutional review boards to suspend or terminate the trials; and
- the Pharmaceutical Investment Companies' may be unable to meet the endpoints established by the FDA for approval.

Product development costs for the Pharmaceutical Investment Companies, or any collaborators, will increase if the Pharmaceutical Investment Companies, or they, experience delays in testing or pursuing marketing approvals and the Pharmaceutical Investment Companies may be required to obtain additional funds to complete clinical trials and prepare for possible commercialization of the Pharmaceutical Investment Companies' product candidates. The Pharmaceutical Investment Companies do not know whether any preclinical tests or clinical trials will begin as planned, will need to be restructured or will be completed on schedule or at all. Significant preclinical study or clinical trial delays also could shorten any periods during which the Pharmaceutical Investment Companies, or any future collaborators, may have the exclusive right to commercialize the Pharmaceutical Investment Companies' product candidates or allow the Pharmaceutical Investment Companies' competitors, or the competitors of any collaborators, to bring products to market before the Pharmaceutical Investment Companies, or any collaborators do and impair the Pharmaceutical Investment Companies' ability, or the ability of any collaborators, to successfully commercialize the Pharmaceutical Investment Companies' product candidates and may harm the Pharmaceutical Investment Companies' business and results of operations. In addition, many of the factors that lead to clinical trial delays may ultimately lead to the denial of marketing approval of any of the Pharmaceutical Investment Companies' product candidates. The occurrence of any of these events would negatively impact the value of our investments.

If the Pharmaceutical Investment Companies experience delays or difficulties in the enrollment of patients in clinical trials, the Pharmaceutical Investment Companies' receipt of necessary regulatory approvals could be delayed or prevented.

The Pharmaceutical Investment Companies or their collaborators may not be able to initiate or continue clinical trials for the Pharmaceutical Investment Companies' product candidates if the Pharmaceutical Investment Companies or they are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or analogous regulatory authorities outside the United States. Enrollment may be particularly challenging for some of the orphan diseases the Pharmaceutical Investment Companies target in the Pharmaceutical Investment Companies' programs. In addition, some of the Pharmaceutical Investment Companies' competitors

may have ongoing clinical trials for product candidates that would treat the same indications as the Pharmaceutical Investment Companies' product candidates, and patients who would otherwise be eligible for the Pharmaceutical Investment Companies' clinical trials may instead enroll in clinical trials of the Pharmaceutical Investment Companies' competitors' product candidates.

Patient enrollment is also affected by other factors including:

- severity of the disease under investigation;
- availability and efficacy of approved medications for the disease under investigation;
- eligibility criteria for the study in question;
- perceived risks and benefits of the product candidate under study;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- proximity and availability of clinical trial sites for prospective patients.

Rafael Pharmaceuticals focuses its development activities on patients with rarer or more difficult to treat forms of cancer. As a result, the potential patient populations for Rafael Pharmaceuticals' clinical trials are narrowed, and Rafael Pharmaceuticals may experience difficulties in identifying and enrolling a sufficient number of patients in Rafael Pharmaceuticals' clinical trials.

In addition, other companies are conducting clinical trials, or may in the future conduct clinical trials, which may have similar eligibility criteria as the Pharmaceutical Investment Companies' current or future clinical trials and which could implicate enrollment of patients and selection of clinical trial sites.

Furthermore, the Pharmaceutical Investment Companies rely on contract research organizations, or CROs, and clinical trial sites to ensure the proper and timely conduct of the Pharmaceutical Investment Companies' clinical trials and while the Pharmaceutical Investment Companies have agreements governing their committed activities, the Pharmaceutical Investment Companies have limited influence over their actual performance. The Pharmaceutical Investment Companies' or their collaborators' inability to enroll a sufficient number of patients for the Pharmaceutical Investment Companies' clinical trials would result in significant delays or may require us to abandon one or more clinical trials altogether. Enrollment delays in the Pharmaceutical Investment Companies' clinical trials may result in increased development costs for the Pharmaceutical Investment Companies' product candidates, which would cause the value of the Pharmaceutical Investment Companies' to decline and limit the Pharmaceutical Investment Companies' ability to obtain additional financing. The occurrence of any of these events would negatively impact the value of our investments.

If serious adverse side effects or unexpected characteristics are identified during the development of the Pharmaceutical Investment Companies' product candidates, the Pharmaceutical Investment Companies may need to abandon or limit the Pharmaceutical Investment Companies' development of some of the Pharmaceutical Investment Companies' product candidates.

All of the Pharmaceutical Investment Companies' lead product candidates are still in clinical stage development and their risk of failure is high. It is impossible to predict when or if any of the Pharmaceutical Investment Companies' product candidates will prove effective or safe in humans or will receive marketing approval. Adverse events or undesirable side effects caused by, or other unexpected properties of, the Pharmaceutical Investment Companies' product candidates could cause us, any future collaborators, an institutional review board or regulatory authorities to interrupt, delay or halt clinical trials of one or more of the Pharmaceutical Investment Companies' product candidates and could result in a more restrictive label, or the delay or denial of marketing approval by the FDA or comparable foreign regulatory authorities. If adverse effects were to arise in patients being treated with any of the Pharmaceutical Investment Companies' product candidates, it could require them to halt, delay or interrupt clinical trials of such product candidate or adversely affect the Pharmaceutical Investment Companies' ability to obtain requisite approvals to advance the development and commercialization of such product

candidate. If any of the Pharmaceutical Investment Companies' product candidates is associated with adverse events or undesirable side effects or has properties that are unexpected, the Pharmaceutical Investment Companies, or any future collaborators, may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Many compounds that initially show promise in earlier stage testing for treating cancer, or other diseases have later been found to cause side effects that prevented further development of the compound. If the Pharmaceutical Investment Companies are unable to develop any of their product candidates, it would negatively impact the value of our investments.

Results of preclinical studies and early clinical trials may not be predictive of results of future clinical trials.

The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of clinical trials do not necessarily predict success in future clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and the Pharmaceutical Investment Companies could face similar setbacks. The design of a clinical trial can determine whether its results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. The Pharmaceutical Investment Companies have limited experience in designing clinical trials and may be unable to design and execute a clinical trial to support marketing approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if the Pharmaceutical Investment Companies, or future collaborators, believe that the results of clinical trials for the Pharmaceutical Investment Companies' product candidates warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of the Pharmaceutical Investment Companies' product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. If the Pharmaceutical Investment Companies fail to receive positive results in clinical trials of the Pharmaceutical Investment Companies' product candidates, the development timeline and regulatory approval and commercialization prospects for the Pharmaceutical Investment Companies' most advanced product candidates, and, correspondingly, the Pharmaceutical Investment Companies' business and financial prospects would be negatively impacted.

The Pharmaceutical Investment Companies may expend their limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because the Pharmaceutical Investment Companies have limited financial and managerial resources, their focus on research programs and product candidates that they may or will identify for specific indications. As a result, the Pharmaceutical Investment Companies may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. The Pharmaceutical Investment Companies' resource allocation decisions may cause them to fail to capitalize on viable commercial medicines or profitable market opportunities. The Pharmaceutical Investment Companies' spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable medicines. If the Pharmaceutical Investment Companies do not accurately evaluate the commercial potential or target market for a particular product candidate, they may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for them to retain sole development and commercialization rights to such product candidate.

The Pharmaceutical Investment Companies have never obtained marketing approval for a product candidate and may be unable to obtain, or may be delayed in obtaining, marketing approval for any of their product candidates.

The Pharmaceutical Investment Companies have never obtained marketing approval for a product candidate. It is possible that the FDA or foreign regulatory authorities may refuse to accept for substantive review, any NDAs that

the Pharmaceutical Investment Companies submit or may conclude after review of the Pharmaceutical Investment Companies' data that the relevant application is insufficient to obtain marketing approval of the relevant product candidates. If the FDA, or foreign regulatory authorities, does not accept or approve the Pharmaceutical Investment Companies' NDAs for any of their product candidates, those authorities may require that the Pharmaceutical Investment Companies conduct additional clinical trials, preclinical studies or manufacturing validation studies and submit that data before they will reconsider the applications. Depending on the extent of these or any other FDA-required trials or studies, approval of any NDA or application that the Pharmaceutical Investment Companies submit may be delayed by several years, or may require them to expend more resources than they have available. It is also possible that additional trials or studies, if performed and completed, may not be considered sufficient by the FDA to approve the Pharmaceutical Investment Companies' NDAs. Any delay in obtaining, or an inability to obtain, marketing approvals would prevent commercialization of the Pharmaceutical Investment Companies' product candidates, generating revenue and achieving and sustaining profitability. If any of these outcomes occur, the Pharmaceutical Investment Companies may be forced to abandon their development efforts, which could significantly harm the Pharmaceutical Investment Companies' business and the value of our investments.

Even if any of the Pharmaceutical Investment Companies' product candidates receives marketing approval, the Pharmaceutical Investment Companies or others may later discover that the product is less effective than previously believed or causes undesirable side effects that were not previously identified, which could compromise the Pharmaceutical Investment Companies' ability, or that of any future collaborators, to market the product.

Clinical trials of the Pharmaceutical Investment Companies' product candidates are conducted in carefully defined sets of patients who have agreed to enter into clinical trials. Consequently, it is possible that the Pharmaceutical Investment Companies' clinical trials, or those of any future collaborator, may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If, following approval of a product candidate, the Pharmaceutical Investment Companies, or others, discover that the product is less effective than previously believed or causes undesirable side effects that were not previously identified, any of the following adverse events could occur:

- regulatory authorities may withdraw their approval of the product or seize the product;
- the Pharmaceutical Investment Companies, or any future collaborators, may be required to recall the product, change the way the product is administered or conduct additional clinical trials;
- additional restrictions may be imposed on the marketing of, or the manufacturing processes for, the particular product;
- the Pharmaceutical Investment Companies may be subject to government fines, seizures, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication;
- the Pharmaceutical Investment Companies, or any future collaborators, may be required to create a Medication Guide outlining the risks of the previously unidentified side effects for distribution to patients;
- the Pharmaceutical Investment Companies, or any future collaborators, could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- the Pharmaceutical Investment Companies' reputation may suffer.

Should any of these events occur, the value of our pharmaceutical investments may be negatively impacted.

Even if any of the Pharmaceutical Investment Companies' product candidates receive marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors and others in the medical community necessary for commercial success.

If any of the Pharmaceutical Investment Companies' product candidates receive marketing approval, they may nonetheless fail to gain sufficient market acceptance by physicians, patients, healthcare payors and others in the medical community. For example, current cancer treatments like chemotherapy and radiation therapy are well established in the medical community, and doctors may continue to rely on these treatments. If the Pharmaceutical Investment Companies' product candidates do not achieve an adequate level of acceptance, the Pharmaceutical Investment Companies may not generate significant product revenue and may not become profitable. The degree of market acceptance of the Pharmaceutical Investment Companies' product candidates, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the approval, availability, market acceptance and reimbursement for the companion diagnostic;
- the ability to offer the Pharmaceutical Investment Companies' medicines for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- ensuring uninterrupted product supply;
- the strength of marketing and distribution support;
- sufficient third-party coverage or reimbursement; and
- the prevalence and severity of any side effects.

The failure to achieve market acceptance could significantly harm the Pharmaceutical Investment Companies' business and the value of our investments.

If, in the future, the Pharmaceutical Investment Companies are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market the Pharmaceutical Investment Companies' product candidates, the Pharmaceutical Investment Companies may not be successful in commercializing their product candidates if and when they are approved.

The Pharmaceutical Investment Companies do not have a sales or marketing infrastructure and have little experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved medicine for which the Pharmaceutical Investment Companies retain sales and marketing responsibilities, they must either develop a sales and marketing organization or outsource these functions to other third parties. In the future, the Pharmaceutical Investment Companies may choose to build a focused sales and marketing infrastructure to sell, or participate in sales activities with their collaborators for, some of their product candidates if and when they are approved.

There are risks involved with both establishing the Pharmaceutical Investment Companies' own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which the Pharmaceutical Investment Companies recruit a sales force and establishes marketing capabilities is delayed or does not occur for any reason, they would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if the Pharmaceutical Investment Companies cannot retain or reposition their sales and marketing personnel.

Factors that may inhibit the Pharmaceutical Investment Companies' efforts to commercialize their medicines on their own include:

- the Pharmaceutical Investment Companies' inability to recruit and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future medicines;
- the lack of complementary medicines to be offered by sales personnel, which may put them at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If the Pharmaceutical Investment Companies enter into arrangements with third parties to perform sales, marketing and distribution services, their product revenue or the profitability of product revenue to them are likely to be lower than if the Pharmaceutical Investment Companies were to market and sell any medicines that they develop themselves. In addition, the Pharmaceutical Investment Companies may not be successful in entering into arrangements with third parties to sell and market their product candidates or may be unable to do so on terms that are favorable. The Pharmaceutical Investment Companies likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market the Pharmaceutical Investment Companies' medicines effectively. If the Pharmaceutical Investment Companies do not establish sales and marketing capabilities successfully, either on their own or in collaboration with third parties, the Pharmaceutical Investment Companies will not be successful in commercializing their product candidates.

The Pharmaceutical Investment Companies face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than they do.

The development and commercialization of new drug products is highly competitive. The Pharmaceutical Investment Companies face competition with respect to their current product candidates, and the Pharmaceutical Investment Companies and their collaborators will face competition with respect to any product candidates that they or their collaborators may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the disease indications for which the Pharmaceutical Investment Companies are developing their product candidates, such as pancreatic cancer, and, acute myelogenous leukemia amongst others. Some of these competitive products and therapies are based on scientific approaches that are similar to the Pharmaceutical Investment Companies' approach. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

The Pharmaceutical Investment Companies are developing most of their initial product candidates for the treatment of cancer. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy, and cancer drugs are frequently prescribed off-label by healthcare professionals. Some of the currently approved drug therapies are branded and subject to patent protection, and others are available on a generic basis. Many of these approved drugs are well established therapies and are widely accepted by physicians, patients and third-party payors. Insurers and other third-party payors may also encourage the use of generic products. The Pharmaceutical Investment Companies expect that if their product candidates are approved, they will be priced at a significant premium over competitive generic products. This may make it difficult for them to achieve their business strategy of using their product candidates in combination with existing therapies or replacing existing therapies with their product candidates.

Rafael Pharmaceutical is focused on an area known as cancer metabolism and there are also a number of product candidates in preclinical or clinical development by third parties to treat cancer by targeting cancer metabolism. These companies include large pharmaceutical companies, including, but not limited to, AstraZeneca plc, Eli Lilly and Company, Roche Holdings Inc. and its subsidiary Genentech, Inc., GlaxoSmithKline plc, Merck & Co., Novartis, Pfizer, Inc., and Genzyme, a Sanofi company. There are also biotechnology companies of various sizes that are developing therapies to target cancer metabolism, including, but not limited to, 3V Biosciences,

Threshold Pharmaceuticals, Eleison Pharmaceuticals, Forma Therapeutics, Alexion Pharmaceuticals, Inc., BioMarin Pharmaceutical Inc., Calithera Biosciences, Inc., Agios Pharmaceuticals, Inc., Forma Therapeutics Holdings LLC, Shire Biochem Inc., Raze Therapeutics, Inc. and Selvita S.A.

LipoMedix faces competition from (i) other liposome and nanomedicine products in solid tumors (for example, Doxil (Janssen), Onivyde (Ipsen), Abraxane (Celgene)); (ii) other non-liposomal chemotherapeutic drugs in gastrointestinal malignancies recently developed or under development (for example, TAS-102 (Taiho) in colorectal cancer); (iii) biological therapy (including small molecule kinase inhibitors) recently developed or under development for colon cancer (for example Regorafenib (Bayer)); and (iv) immunotherapy approaches in gastrointestinal malignancies (for example Merck USA), antibodies and/or vaccinations; and (v) other large companies such as Roche.

The Pharmaceutical Investment Companies' competitors may develop products that are more effective, safer, more convenient or less costly than any that they are developing or that would render their product candidates obsolete or non-competitive. In addition, the Pharmaceutical Investment Companies' competitors may discover biomarkers that more efficiently measure metabolic pathways than the Pharmaceutical Investment Companies' methods, which may give them a competitive advantage in developing potential products. The Pharmaceutical Investment Companies' competitors may also obtain marketing approval from the FDA or other regulatory authorities for their products more rapidly than the Pharmaceutical Investment Companies may obtain approval, which could result in the Pharmaceutical Investment Companies' competitors establishing a strong market position before they are able to enter the market.

Many of the Pharmaceutical Investment Companies' competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than the Pharmaceutical Investment Companies do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of the Pharmaceutical Investment Companies' competitors. Smaller and other clinical stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with the Pharmaceutical Investment Companies' in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, the Pharmaceutical Investment Companies' programs.

Even if the Pharmaceutical Investment Companies or their collaborators are able to commercialize any product candidates, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which would harm the Pharmaceutical Investment Companies' business.

The commercial success of the Pharmaceutical Investment Companies' product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of the Pharmaceutical Investment Companies' product candidates will be paid by third-party payors, including government health administration authorities and private health coverage insurers. If coverage and reimbursement is not available, or reimbursement is available only to limited levels, the Pharmaceutical Investment Companies, or any future collaborators, may not be able to successfully commercialize the Pharmaceutical Investment Companies' product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us, or any future collaborators, to establish or maintain pricing sufficient to realize a sufficient return on the Pharmaceutical Investment Companies' or their investments. In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors and coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require the Pharmaceutical Investment Companies' to provide scientific and clinical support for the use of their products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved drugs. Marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is

granted. As a result, the Pharmaceutical Investment Companies, or any future collaborators, might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenue the Pharmaceutical Investment Companies are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder the Pharmaceutical Investment Companies' ability or the ability of any future collaborators to recoup the Pharmaceutical Investment Companies' or their investment in one or more product candidates, even if the Pharmaceutical Investment Companies' product candidates obtain marketing approval.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Therefore, the Pharmaceutical Investment Companies' ability, and the ability of any future collaborators, to commercialize any of the Pharmaceutical Investment Companies' product candidates will depend in part on the extent to which coverage and reimbursement for these products and related treatments will be available from third-party payors. Third-party payors decide which medications they will cover and establish reimbursement levels. The healthcare industry is acutely focused on cost containment, both in the United States and elsewhere. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect the Pharmaceutical Investment Companies' ability or that of any future collaborators to sell the Pharmaceutical Investment Companies' product candidates profitably. These payors may not view the Pharmaceutical Investment Companies' products, if any, as cost-effective, and coverage and reimbursement may not be available to the Pharmaceutical Investment Companies' customers, or those of any future collaborators, or may not be sufficient to allow the Pharmaceutical Investment Companies' products, if any, to be marketed on a competitive basis. Cost-control initiatives could cause us, or any future collaborators, to decrease the price the Pharmaceutical Investment Companies, or they, might establish for products, which could result in lower than anticipated product revenue. If the prices for the Pharmaceutical Investment Companies' products, if any, decrease or if governmental and other third-party payors do not provide coverage or adequate reimbursement, the Pharmaceutical Investment Companies' prospects for revenue and profitability will suffer.

There may also be delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the indications for which the drug is approved by the FDA or comparable foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers the Pharmaceutical Investment Companies' costs, including research, development, manufacture, sale and distribution. Reimbursement rates may vary, by way of example, according to the use of the product and the clinical setting in which it is used. Reimbursement rates may also be based on reimbursement levels already set for lower cost drugs or may be incorporated into existing payments for other services.

In addition, increasingly, third-party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. The Pharmaceutical Investment Companies cannot be sure that coverage will be available for any product candidate that they, or any future collaborator, commercializes and, if available, that the reimbursement rates will be adequate. Further, the net reimbursement for drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any of the Pharmaceutical Investment Companies' product candidates for which they, or any future collaborator, obtain marketing approval could significantly harm the Pharmaceutical Investment Companies' operating results, the Pharmaceutical Investment Companies' ability to raise capital needed to commercialize products and the Pharmaceutical Investment Companies' overall financial condition.

Product liability lawsuits against the Pharmaceutical Investment Companies or their collaborators could cause substantial liabilities and could limit commercialization of any medicines that the Pharmaceutical Investment Companies or their collaborators may develop.

The Pharmaceutical Investment Companies and their collaborators face an inherent risk of product liability exposure related to the testing of the Pharmaceutical Investment Companies' product candidates in human clinical trials and will face an even greater risk if the Pharmaceutical Investment Companies or they commercially sell any medicines that the Pharmaceutical Investment Companies or they may develop. If the Pharmaceutical Investment Companies or their collaborators cannot successfully defend ourselves or themselves against claims that the

Pharmaceutical Investment Companies' product candidates or medicines caused injuries, the Pharmaceutical Investment Companies could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or medicines that the Pharmaceutical Investment Companies may develop;
- injury to the Pharmaceutical Investment Companies' reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of the Pharmaceutical Investment Companies' management to pursue the Pharmaceutical Investment Companies' business strategy; and
- the inability to commercialize any medicines that the Pharmaceutical Investment Companies may develop.

Although the Pharmaceutical Investment Companies maintain product liability insurance coverage, it may not be adequate to cover all liabilities that the Pharmaceutical Investment Companies may incur. The Pharmaceutical Investment Companies anticipate that they will need to increase their insurance coverage when the Pharmaceutical Investment Companies continues clinical trials and if the Pharmaceutical Investment Companies successfully commercializes any medicine. Insurance coverage is increasingly expensive. The Pharmaceutical Investment Companies may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. In addition, if one of their collaboration partners were to become subject to product liability claims or were unable to successfully defend themselves against such claims, any such collaboration partner could be more likely to terminate such relationships and therefore substantially limit the commercial potential of the Pharmaceutical Investment Companies' products.

If the Pharmaceutical Investment Companies fail to comply with environmental, health and safety laws and regulations, they could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of their businesses.

The Pharmaceutical Investment Companies are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. The Pharmaceutical Investment Companies' operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. The Pharmaceutical Investment Companies' operations also produce hazardous waste products. The Pharmaceutical Investment Companies generally contract with third parties for the disposal of these materials and wastes. The Pharmaceutical Investment Companies cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from their use of hazardous materials, the Pharmaceutical Investment Companies could be held liable for any resulting damages, and any liability could exceed their resources. The Pharmaceutical Investment Companies also could incur significant costs associated with civil or criminal fines and penalties.

Although the Pharmaceutical Investment Companies maintain workers' compensation insurance to cover them for costs and expenses they may incur due to injuries to their employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. The Pharmaceutical Investment Companies do not maintain insurance for environmental liability or toxic tort claims that may be asserted against them in connection with their storage or disposal of biological, hazardous or radioactive materials.

In addition, the Pharmaceutical Investment Companies may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair the Pharmaceutical Investment Companies' research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

The Pharmaceutical Investment Companies rely significantly on information technology and any failure, inadequacy, interruption or security lapse of that technology, including any cyber security incidents, could harm the Pharmaceutical Investment Companies' ability to operate their businesses effectively.

Despite the implementation of security measures, the Pharmaceutical Investment Companies' internal computer systems and those of third parties with which the Pharmaceutical Investment Companies contract are vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in the Pharmaceutical Investment Companies' operations, and could result in a material disruption of their clinical and commercialization activities and business operations, in addition to possibly requiring substantial expenditures of resources to remedy. The loss of clinical trial data could result in delays in the Pharmaceutical Investment Companies' regulatory approval efforts and significantly increase their costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, the Pharmaceutical Investment Companies' data or applications, or inappropriate disclosure of confidential or proprietary information, the Pharmaceutical Investment Companies could incur liability and their product research, development and commercialization efforts could be delayed.

Even if the Pharmaceutical Investment Companies complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent them from obtaining approvals for the commercialization of some or all of our product candidates. If the Pharmaceutical Investment Companies or their collaborators are not able to obtain, or if there are delays in obtaining, required regulatory approvals, they will not be able to commercialize, or will be delayed in commercializing, their product candidates, and their ability to generate revenue will be materially impaired.

The Pharmaceutical Investment Companies' product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, export and import, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and comparable regulatory authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. The Pharmaceutical Investment Companies and their collaborators have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction. The Pharmaceutical Investment Companies have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expects to rely on third-party contract research organizations to assist in this process.

Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. The Pharmaceutical Investment Companies' product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude the Pharmaceutical Investment Companies obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval the Pharmaceutical Investment Companies or their collaborators ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved medicine not commercially viable.

Accordingly, if the Pharmaceutical Investment Companies or their collaborators experience delays in obtaining approval or if the Pharmaceutical Investment Companies or they fail to obtain approval of their product candidates, the commercial prospects for their product candidates may be harmed and their ability to generate any revenue will be materially impaired.

Current and future legislation may increase the difficulty and cost for the Pharmaceutical Investment Companies and any future collaborators to obtain marketing approval of the Pharmaceutical Investment Companies' other product candidates and affect the prices obtained.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of the Pharmaceutical Investment Companies' other product candidates, restrict or regulate post-approval activities and affect the Pharmaceutical Investment Companies' ability, or the ability of any future collaborators, to profitably sell any products for which the Pharmaceutical Investment Companies, or they, obtain marketing approval. The Pharmaceutical Investment Companies expects that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and additional downward pressure on the price that the Pharmaceutical Investment Companies, or any future collaborators, may receive for any approved products.

For example, in March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the PPACA. Among the provisions of the PPACA of potential importance to the Pharmaceutical Investment Companies' business and the Pharmaceutical Investment Companies' product candidates are the following:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected;
- expansion of healthcare fraud and abuse laws, including the civil False Claims Act and the federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to individuals enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements to report certain financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- a new Independent Payment Advisory Board, or IPAB, which has authority to recommend certain changes to the Medicare program to reduce expenditures by the program that could result in reduced payments for prescription drugs; and
- a Center for Medicare and Medicaid Innovation within CMS to test innovative payment and service delivery models.

Other legislative changes have been proposed and adopted since the PPACA was enacted. These changes include the Budget Control Act of 2011, which, among other things, led to aggregate reductions to Medicare

payments to providers of up to 2% per fiscal year that started in 2013 and, due to subsequent legislation, will continue until 2025. In addition, the American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and may otherwise affect the prices the Pharmaceutical Investment Companies may obtain for any of their product candidates for which regulatory approval is obtained.

The Pharmaceutical Investment Companies expect that the PPACA, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that the Pharmaceutical Investment Companies receive for any approved product. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our medicines. Moreover, legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. They cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of the Pharmaceutical Investment Companies' product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject the Pharmaceutical Investment Companies' and any future collaborators to more stringent product labeling and post-marketing testing and other requirements. Similar acts imposed by other countries may adversely affect the Company.

If the FDA does not grant the Pharmaceutical Investment Companies' products appropriate periods of data exclusivity before approving generic versions of our products, or any periods of exclusivity that are granted expire, the sales of our products could be adversely affected.

Third party generic manufacturers may seek approval of generic versions of drugs through submission of abbreviated new drug applications, or ANDAs, in the United States. In support of an ANDA, a generic manufacturer need not conduct clinical trials. Rather, the applicant generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use or labeling as the reference-listed drug and that the generic version is bioequivalent to the reference-listed drug, meaning it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the reference-listed drug and companies that produce generic products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug, a significant percentage of the sales of any reference-listed drug may be typically lost to the generic product.

The FDA may not approve an ANDA for a generic product until any applicable period of non-patent exclusivity for the reference-listed drug has expired. The Federal Food, Drug, and Cosmetic Act, or FDCA, provides a period of five years of non-patent exclusivity for a new drug containing a new chemical entity, or NCE. Specifically, in cases where such exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification that a patent covering the reference-listed drug is invalid, unenforceable or will not be infringed by the generic product, in which case the applicant may submit its application four years following approval of the reference-listed drug. If a patent infringement lawsuit is timely filed against the ANDA applicant FDA may not approve the ANDA for 30 months unless the ANDA applicant obtains a favorable court decision sooner. The FDCA also provides a period of three years of new clinical investigation, or NCI, data exclusivity in connection with the approval of a supplemental indication for the product for which a clinical trial is essential for approval.

In the event that a generic manufacturer is able to obtain FDA approval despite any periods of data exclusivity we might obtain, the competition that the Pharmaceutical Investment Companies' approved products may face from generic versions could negatively impact our future revenue, profitability and cash flows and substantially limit our ability to obtain a return on our investments in those product candidates.

If Pharmaceutical Investment Companies are unable to obtain and maintain patent or trade secret protection for their medicines and technology, or if the scope of the patent protection obtained is not sufficiently broad, their competitors could develop and commercialize medicines and technology similar or identical to theirs, and their ability to successfully commercialize their medicines and technology may be adversely affected.

The Pharmaceutical Investment Companies success depends in large part on their ability to obtain and maintain patent protection in the United States and other countries with respect to their proprietary medicines and technology. The Pharmaceutical Investment Companies seek to protect their proprietary position by filing patent applications in the United States and abroad related to their novel technologies and medicines that are important to our business.

The patent prosecution process is expensive and time-consuming, and the Pharmaceutical Investment Companies may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that the Pharmaceutical Investment Companies will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Although Pharmaceutical Investment Companies enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of their research and development output, such as their employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing their ability to seek patent protection. The Pharmaceutical Investment Companies have licensed patent rights, and in the future may license additional patent rights, from third parties. These licensed patent rights may be valuable to the Pharmaceutical Investment Companies business, and they may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology or medicines underlying such licenses. The Pharmaceutical Investment Companies cannot be certain that these patents and applications will be prosecuted and enforced in a manner consistent with the best interests of their business. If any such licensors fail to maintain such patents, or lose rights to those patents, the rights the Pharmaceutical Investment Companies have licensed may be reduced or eliminated and their right to develop and commercialize any of their products that are the subject of such licensed rights could be adversely affected. In addition to the foregoing, the risks associated with patent rights that the Pharmaceutical Investment Companies license from third parties also apply to patent rights they own.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of the Pharmaceutical Investment Companies' patent rights are highly uncertain. The Pharmaceutical Investment Companies pending and future patent applications may not result in patents being issued that protect their technology or medicines or that effectively prevent others from commercializing competitive technologies and medicines. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of their patents or narrow the scope of their patent protection. The laws of foreign countries may not protect the Pharmaceutical Investment Companies' rights to the same extent as the laws of the United States. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, the Pharmaceutical Investment Companies cannot be certain that they were the first to make the inventions claimed in their owned or licensed patents or pending patent applications, or that they were the first to file for patent protection of such inventions.

Assuming the other requirements for patentability are met, prior to March 2013, in the United States, the first to make the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. Beginning in March 2013, the United States transitioned to a first inventor to file system in which, assuming the other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent. The Pharmaceutical Investment Companies may be subject to a third-party preissuance submission of prior art to the U.S. Patent and Trademark Office, or PTO, or become involved in opposition, derivation, revocation, reexamination, post-grant and inter partes review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize the Pharmaceutical Investment Companies' technology or products and compete directly with them, without payment to them, or result in their inability to manufacture or commercialize medicines without infringing third-party patent rights.

Even if Pharmaceutical Investment Companies' patent applications issue as patents, they may not issue in a form that will provide them with any meaningful protection, prevent competitors or other third parties from competing with them or otherwise provide them with any competitive advantage. The Pharmaceutical Investment Companies competitors or other third parties may be able to circumvent their patents by developing similar or alternative technologies or products in a non-infringing manner.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and the Pharmaceutical Investment Companies patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, which could limit the Pharmaceutical Investment Companies ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and medicines. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide the Pharmaceutical Investment Companies with sufficient rights to exclude others from commercializing products similar or identical to the Pharmaceutical Investment Companies's.

The Pharmaceutical Investment Companies may become involved in lawsuits to protect or enforce their patents and other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe the Pharmaceutical Investment Companies' patents and other intellectual property rights. To counter infringement or unauthorized use, the Pharmaceutical Investment Companies may be required to file infringement claims, which can be expensive and time consuming. In addition, in an infringement proceeding, a court may decide that a patent of the Pharmaceutical Investment Companies is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that their patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of the Pharmaceutical Investment Companies' patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Third parties may initiate legal proceedings alleging that Pharmaceutical Investment Companies or the Pharmaceutical Investment Companie' collaborators are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of their business.

The Pharmaceutical Investment Companies' commercial success depends upon their ability and the ability of their collaborators to develop, manufacture, market and sell their product candidates and use their proprietary technologies without infringing the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. Third parties may assert infringement claims against the Pharmaceutical Investment Companies based on existing patents or patents that may be granted in the future. If the Pharmaceutical Investment Companies or one of their collaborators are found to infringe a third party's intellectual property rights, the Pharmaceutical Investment Companies or they could be required to obtain a license from such third party to continue developing and marketing the Pharmaceutical Investment Companies' medicines and technology. However, the Pharmaceutical Investment Companies or their collaborators may not be able to obtain any required license on commercially reasonable terms or at all. Even if the Pharmaceutical Investment Companies or their collaborators were able to obtain a license, it could be non-exclusive, thereby giving their competitors and other third parties access to the same technologies licensed to the Pharmaceutical Investment Companies. The Pharmaceutical Investment Companies or their collaborators could be forced, including by court order, to cease developing and commercializing the infringing technology or medicine. In addition, we or our collaborators could be found liable for monetary damages. A finding of infringement could prevent the Pharmaceutical Investment Companies or their collaborators from commercializing the Pharmaceutical Investment Companies product candidates or force the Pharmaceutical Investment Companies to cease some of their business operations, which could materially harm our business. Claims that the Pharmaceutical Investment Companies or their collaborators have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

The Pharmaceutical Investment Companies may be subject to claims that the Pharmaceutical Investment Companies' employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Many of the Pharmaceutical Investment Companies' employees, consultants or advisors are currently or were previously employed at universities or other biotechnology or pharmaceutical companies, including the Pharmaceutical Investment Companies competitors or potential competitors. Although the Pharmaceutical Investment Companies try to ensure that their employees, consultants and advisors do not use the proprietary information or know-how of others in their work for the Pharmaceutical Investment Companies , the Pharmaceutical Investment Companies may be subject to claims that they or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If the Pharmaceutical Investment Companies fail in defending any such claims, in addition to paying monetary damages, the Pharmaceutical Investment Companies may lose valuable intellectual property rights or personnel. Even if the Pharmaceutical Investment Companies are successful in defending against such claims, litigation could result in substantial costs and be a distraction to their management.

Intellectual property litigation could cause us to spend substantial resources and distract the Pharmaceutical Investment Companies' personnel from their normal responsibilities.

Even if resolved in the Pharmaceutical Investment Companies' favor, litigation or other legal proceedings relating to intellectual property claims may cause them to incur significant expenses and could distract their technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our Class B common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. The Pharmaceutical Investment Companies may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of the Pharmaceutical Investment Companies' competitors may be able to sustain the costs of such litigation or proceedings more effectively than they can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on the Pharmaceutical Investment Companies' ability to compete in the marketplace.

If the Pharmaceutical Investment Companies are unable to protect the confidentiality of their trade secrets, their business and competitive position would be harmed.

In addition to seeking patents for some of Pharmaceutical Investment Companies' technology and medicines, the Pharmaceutical Investment Companies also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain their competitive position. Trade secrets and know-how can be difficult to protect.

The Pharmaceutical Investment Companies seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as their employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties. The Pharmaceutical Investment Companies also enter into confidentiality and invention or patent assignment agreements with their employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose the Pharmaceutical Investment Companies' proprietary information, including their trade secrets, and they may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of the Pharmaceutical Investment Companies' trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, they would have no right to prevent them from using that technology or information to compete with the Pharmaceutical Investment Companies. If any of the Pharmaceutical Investment Companies' trade secrets were to be disclosed to or independently developed by a competitor or other third party, their competitive position would be harmed.

The Pharmaceutical Investment Companies contract with third parties for the manufacture of our product candidates for preclinical and clinical testing and expect to continue to do so for late-stage clinical trials and for commercialization. This reliance on third parties increases the risk that Pharmaceutical Investment Companies will not have sufficient quantities of their product candidates or medicines or that such supply will not be available to them at an acceptable cost, which could delay, prevent or impair their development or commercialization efforts.

The Pharmaceutical Investment Companies do not have any manufacturing facilities. The Pharmaceutical Investment Companies currently rely, and expect to continue to rely, on third-party manufacturers for the manufacture of their product candidates for preclinical and clinical testing and for commercial supply of any of these product candidates for which they or their collaborators obtain marketing approval. To date, the Pharmaceutical Investment Companies have obtained materials for their product candidates for our ongoing preclinical and clinical testing from third-party manufacturers.

- The Pharmaceutical Investment Companies may be unable to establish any further long-term supply agreements with third-party manufacturers or to do so on acceptable terms. Even if the Pharmaceutical Investment Companies are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:
- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for the Pharmaceutical Investment Companies ; and
- reliance on the third party for regulatory compliance, quality assurance, environmental and safety and pharmacovigilance reporting.

Third-party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements on a global basis. The Pharmaceutical Investment Companies' failure, or the failure of their third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, import detentions for active pharmaceutical ingredients or finished drug products manufactured outside of the U.S., seizures or recalls of product candidates or medicines, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of their medicines and harm our business and results of operations.

Any medicines that the Pharmaceutical Investment Companies may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for the Pharmaceutical Investment Companies.

Any performance failure on the part of the Pharmaceutical Investment Companies' existing or future manufacturers could delay clinical development or marketing approval. The Pharmaceutical Investment Companies do not currently have arrangements in place for redundant supply for active pharmaceutical ingredients or finished drug products. If any one of the Pharmaceutical Investment Companies current contract manufacturers cannot perform as agreed, the Pharmaceutical Investment Companies may be required to replace that manufacturer. Although the Pharmaceutical Investment Companies believe that there are several potential alternative manufacturers who could manufacture their product candidates, they may incur added costs and delays in identifying and qualifying any such replacement.

The Pharmaceutical Investment Companies' current and anticipated future dependence upon others for the manufacture of their product candidates or medicines may adversely affect their future profit margins and their ability to commercialize any medicines that receive marketing approval on a timely and competitive basis.

Risks Related to Business Generally

The reporting requirements associated with our being a public company subjects us to significant expenses.

As a result of the Spin-Off from IDT Corporation in March 2018, we are a public reporting company and are required to file with the Securities and Exchange Commission reports required by the Exchange Act of 1934. Specifically, among other requirements, we need to file quarterly reports on Form 10-Q, annual reports on Form 10-K and under some circumstances, current reports on Form 8-K, in accordance with strict timelines. We are also required to file annual proxy materials. In addition, as part of those filings, we are required to provide annual audited financial statements. Compliance with such requirements significantly increased our legal and accounting costs and demand significant attention from management. The resources and time required to comply with rules applicable to public companies divert financial and human resources from focusing on our business, and we can provide no assurance that the benefits of our being public outweigh the disadvantages and costs associated with compliance. We currently anticipate our total costs to be between $2,000,000 to $2,300,000 a year as a result of being a public reporting company. Several of the costs included in this estimated range are preliminary, subject to negotiation, and may vary from the estimates when finalized.

We are controlled by our principal stockholder, which limits the ability of other stockholders to affect the management of the Company.

Howard S. Jonas our Chairman of our Board of Directors and our Chief Executive Officer controls a majority of the voting power of our capital stock. As of October 10, 2018, Mr. Jonas has voting power over 787,163 shares of our Class A common stock (which are convertible into shares of our Class B common stock on a 1-for-1 basis) and 1,339,959 shares of our Class B common stock, representing approximately 70.5% of the combined voting power of our outstanding capital stock. Mr. Jonas will be able to control matters requiring approval by our stockholders, including the election of all of the directors and the approval of significant corporate matters, including any merger, consolidation or sale of all or substantially all of our assets. As a result, the ability of any of our other stockholders to influence our management is limited.

If we fail to implement and maintain an effective system of internal controls, we may be unable to accurately report our results of operations, meet our reporting obligations or prevent fraud.

Upon the completion of the Spin-Off, we became a public company in the United States subject to the Sarbanes-Oxley Act of 2002. Under Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, a newly public company is not required to comply with either the management or the auditor reporting requirements related to internal control over financial reporting until its second annual report, if applicable.

Further, we qualify as an "emerging growth company" as defined in the Jumpstart our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of reduced reporting and other burdens that are otherwise applicable generally to public companies. These provisions include:

- an extended transition period to comply with new or revised accounting standards applicable to public companies; and
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002.

We may take advantage of these provisions until the end of the fiscal year ending after the fifth anniversary of our initial registration statement filed related to our Spin-Off from IDT, or such earlier time that we are no longer an emerging growth company and, if we do, the information that we provide stockholders may be different than you might receive from other public companies in which you hold equity. We would cease to be an emerging growth company if we have more than $1.0 billion in annual revenue, have more than $700 million in market value of our shares of common stock held by non-affiliates, or issue more than $1.0 billion of non-convertible debt over a three-year period.

In addition, if we no longer qualify as an emerging growth company, as an accelerated filer, our independent registered public accounting firm must attest to and report on the effectiveness of our internal control over financial reporting. Our management may conclude that our internal control over financial reporting is not effective.

Moreover, even if our management concludes that our internal control over financial reporting is effective, our independent registered public accounting firm, after conducting its own independent testing, may issue a report that is qualified if it is not satisfied with our internal controls or the level at which our controls are documented, designed, operated or reviewed, or if it interprets the relevant requirements differently from us. In addition, after we become a public company, our reporting obligations may place a significant strain on our management, operational and financial resources and systems for the foreseeable future. We may be unable to timely complete our evaluation testing and any required remediation.

During the course of documenting and testing our internal control procedures, in order to satisfy the requirements of Section 404, we may identify other weaknesses and deficiencies in our internal control over financial reporting. In addition, if we fail to maintain the adequacy of our internal control over financial reporting, as these standards are modified, supplemented or amended from time to time, we may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with Section 404. If we fail to achieve and maintain an effective internal control environment, we could suffer material misstatements in our financial statements and fail to meet our reporting obligations, which would likely cause investors to lose confidence in our reported financial information. This could in turn limit our access to capital markets, harm our results of operations, and lead to a decline in the trading price of our stock.

Additionally, ineffective internal control over financial reporting could expose us to increased risk of fraud or misuse of corporate assets and subject us to potential delisting from the stock exchange on which we list, regulatory investigations and civil or criminal sanctions. We may also be required to restate our financial statements from prior periods.

Investors may suffer dilution.

We may engage in equity financing to fund our future operations and growth. If we raise additional funds by issuing equity securities, stockholders may experience significant dilution of their ownership interest (both with respect to the percentage of total securities held, and with respect to the book value of their securities) and such securities may have rights senior to those of the holders of our common stock.

The relationships between Howard S. Jonas and IDT Corporation, Genie Energy and Rafael Pharmaceuticals, Inc. could conflict with our stockholders' interests.

Howard S. Jonas, our controlling stockholder, Chairman of our Board of Directors and our Chief Executive Officer is also the chairman and controlling stockholder of IDT Corporation, chairman of the board and controlling stockholder of Genie and is chairman of the board of Rafael Pharmaceuticals and holds certain direct and indirect interests in Rafael Pharmaceuticals in addition to his interests through ownership of our common stock. These relationships may cause a conflict of interest with our stockholders.

Furthermore, several members of our executive management team are serving as officers of IDT.

We exercised our option for the "controlled company" exemption under NYSE MKT rules with respect to our Nominating Committee.

We are a "controlled company" as defined in section 801(a) of the NYSE American Company Guide because more than 50% of the combined voting power of all of our outstanding common stock is beneficially owned by a single stockholder. As a "controlled company," we are exempt from certain NYSE American rules requiring a board of directors with a majority of independent members, a compensation committee composed entirely of independent directors and a nominating committee composed entirely of independent directors. These independence standards are intended to ensure that directors who meet those standards are free of any conflicting interest that could influence their actions as directors. We applied this "controlled company" exemption for our corporate governance practices only with respect to the independence requirements of our Nominating Committee. Accordingly, with respect to our Nominating Committee you will not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of the NYSE American, and if we were to apply the controlled company exemption to other independence requirements, you would not have the protection afforded by those requirements either.

We have limited resources and could find it difficult to raise additional capital.

We were formerly a wholly-owned subsidiary of IDT Corporation. On March 26, 2018, IDT's interest in us was spun-off by IDT to IDT's stockholders and we became an independent public company through a pro rata distribution of our common stock held by IDT to IDT's stockholders (the Spin-Off). As a result of the Spin-Off, we are independent from IDT. We have no operating history as an independent company, and no current sources of financing. Any financing formerly provided to us by IDT is no longer available. We may need to raise additional capital for operations and in order for stockholders to realize increased value on our securities. Given the current global economy and other factors, there can be no assurance that we will be able to obtain the necessary funding on commercially reasonable terms in a timely fashion. Failure to receive the funding could have a material adverse effect on our business, prospects, and financial condition.

Our limited operating history makes it difficult to evaluate our business and prospects and may increase your investment risk.

We hold a warrant to purchase a significant stake in Rafael Pharmaceuticals, as well as other equity and governance rights in Rafael Pharmaceuticals, which we can't exercise, in full, at this time and may never be able to exercise.

As of the date hereof and based on the current shares issued and outstanding of Rafael Pharmaceuticals, we, and our affiliates that hold interests in Rafael Pharmaceuticals would need to pay in the aggregate approximately $61 million to exercise the Warrant in full and approximately $46 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. On an as-converted fully diluted basis (for all convertible securities of Rafael Pharmaceuticals outstanding), we and our affiliates that hold interests in Rafael Pharmaceuticals would need approximately $112 million to exercise the Warrant in full and approximately $88 million to purchase a 51% controlling stake in Rafael Pharmaceuticals as more fully discussed above on page 4. Following that exercise, a portion of our interest in Rafael Pharmaceuticals would continue to be held for the benefit of the other equity holders in IDT-Rafael Holdings and CS Pharma. Given the Company's anticipated available cash, we would not be able to exercise the warrant in its entirety and we may never be able to exercise the warrant in full.

Our historical financial information may not be indicative of our future results as an independent company.

Our historical financial information may not reflect what our results of operations, financial position and cash flows would have been had we been an independent company during the prior periods presented or be indicative of what our results of operations, financial position and cash flows may be in the future now that we are an independent company.

The trading price of the shares of our Class B common stock is likely to remain volatile, and purchasers of our Class B common stock could incur substantial losses.

Our stock price is likely to remain volatile. The stock market in general and the market for real estate/ pharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may not be able to sell their Class B common stock at or above the price paid for the shares. The market price for our Class B common stock may be influenced by many factors, including:

- actual or anticipated variations in quarterly operating results;
- changes in financial estimates by us or by any securities analysts who might cover our stock;
- conditions or trends in our industry;
- stock market price and volume fluctuations of other publicly traded companies and, in particular, those that operate in the real estate or pharmaceutical industries;
- announcements by us or our competitors of new product or service offerings, significant acquisitions,
- strategic partnerships or divestitures;
- announcements of investigations or regulatory scrutiny of our operations or lawsuits filed against us;

- capital commitments;
- additions or departures of key personnel; and
- sales of our common stock, including sales by our directors and officers or specific stockholders. In addition, in the past, stockholders have initiated class action lawsuits against companies following periods of volatility in the market prices of these companies' stock. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources.

If securities or industry analysts do not publish research or publish unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will rely in part on the research and reports that equity research analysts publish about us and our business. We do not currently have and may never obtain research coverage by equity research analysts. Equity research analysts may elect not to provide research coverage of our common stock after the completion of the Spin-Off, and such lack of research coverage may adversely affect the market price of our common stock. In the event we do have equity research analyst coverage, we will not have any control over the analysts or the content and opinions included in their reports. The price of our stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline.

We may not achieve some or all of the expected benefits of the separation from IDT, and the separation could harm our business.

We may not be able to achieve the full strategic and financial benefits expected to result from the separation from IDT via the Spin-Off, or such benefits may be delayed or not occur at all. The separation from IDT is expected to provide the following benefits, among others: enhanced strategic and management focus; better ability to form strategic partnerships and relationships; faster decision-making; more efficient allocation of capital; alignment of incentives with performance objectives; direct access to the capital markets; and a distinct investment identity.

We may not achieve these and other anticipated benefits for a variety of reasons, including, among others:

- we may be more susceptible to market fluctuations and other adverse events than if we were still a part of IDT;
- our business is less diversified than IDT's business prior to the separation; and
- the other actions required to separate the respective businesses could disrupt our operations.

If we fail to achieve some or all of the benefits expected to result from the separation from IDT, or if such benefits are delayed, our business could be harmed.

Our limited operating history makes it difficult to evaluate our business and prospects and may increase your investment risk.

We have only a limited operating history upon which you can evaluate our business and prospects. We expect to encounter risks and difficulties frequently encountered by early-stage companies in the industries in which we operate.

All of the Pharmaceutical Investment Companies product candidates are still in preclinical development. We have not yet demonstrated our ability to initiate or successfully complete any clinical trials, including large-scale, pivotal clinical trials, obtain marketing approvals, manufacture a commercial scale medicine, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes about ten to fifteen years to develop one new medicine from the time it is discovered to when it is available for treating patients. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a new business in general, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors.

If we do not successfully address these risks, our revenue could decline and our ability to pursue our growth strategy and attain profitability could be compromised.

Risks Related to Our Financial Condition

We will hold significant cash, cash equivalents, marketable securities and investments that are subject to various market risks.

As of July 31, 2018, we held approximately $40.5 million in cash, cash equivalents and liquid marketable securities, $3.3 million in current notes receivable, approximately $4.2 million in interests in hedge funds and approximately $2.0 million in securities in another entity that are not liquid. The cash, cash equivalents and marketable securities figures include $10 million held in a controlled entity of which we are effectively a 45% owner. Investments in marketable securities and hedge funds carry a degree of risk, as there can be no assurance that we will be able to redeem any hedge fund investments at any time or that our investment managers will be able to accurately predict the course of price movements of securities and other instruments and, in general, the securities markets have in recent years been characterized by great volatility and unpredictability. Our passive interests in other entities are not currently liquid and we cannot assure that they we will be able to liquidate them when we desire, or ever. As a result of these different market risks, our holdings of cash, cash equivalents, marketable securities and investments could be materially and adversely affected.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal executive office is located in 520 Broad Street, Newark, New Jersey.

LipoMedix has a Research and Services agreement with Shaare Zedek Scientific Ltd. by which laboratory space at Shaare Zedek Medical Center is used for R&D activities. This agreement is conditioned to grant support for the Shaare Zedek Oncology department either directly from LipoMedix or indirectly through the Israel Innovation Authority Fund (Israel Chief Scientist Office). This arrangement has been going on since 2012, and the grant support is negotiable and renewed on an annual basis. However, there can be no guarantees that Shaare Zedek will continue this agreement in the future.

LipoMedix leases a small Administrative Office in Giv'at Ram Hi-Tech Park from the Hebrew University on an annual basis for $3,600. This lease agreement has been extended till 2021.

See Item 1 — "Real Estate" for a discussion of properties held by the Company for investment purposes and Item 8 — "Financial Statements and Supplemental Data," for a detailed listing of such facilities.

Item 3. Legal Proceedings.

On August 21, 2018, the Company entered into a settlement agreement with a building service provider in order to avoid the risks, delays and expenses inherent in and resulting from litigation. The Company is fully indemnified by IDT for the entire $100,000 settlement.

Under a Founders Agreement among Lipomedix and other parties, two of Lipomedix' founders would become entitled to consulting payments in the approximate amounts of $385,000 and $358,000, respectively, upon the satisfaction of certain conditions thereto. Lipomedix believes that those conditions have not been satisfied and does not believe that they are likely to be satisfied until Lipomedix is successful in raising significant equity capital in the future.

On September 17, 2018, LipoMedix was notified of a claim initiated by one of its founders seeking payment of consulting fees in the amount of approximately $377,000 and seeking to place restrictions on LipoMedix' bank accounts and other assets to protect his claim. LipoMedix does not believe that the individual has the right to receive any payment at the current time. LipoMedix responded to the demand for the placement of restrictions on its assets and intends to vigorously defend this matter.

The Company may from time to time be subject to legal proceedings that may arise in the ordinary course of business. Although there can be no assurance in this regard, other than noted above, the Company does not expect any of those legal proceedings to have a material adverse effect on the Company's results of operations, cash flows or financial condition.

Item 4. Mine Safety Disclosures.

Not applicable.

Part II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

PRICE RANGE OF COMMON STOCK

Our Class B common stock trades on the NYSE American under the symbol "RFL." Trading commenced on the NYSE American on March 27, 2018.

The table below sets forth the high and low sales prices for our Class B common stock as reported by the New York Stock Exchange for the fiscal periods indicated.

	High	Low
Fiscal year ended July 31, 2017		
First Quarter	N/A	N/A
Second Quarter	N/A	N/A
Third Quarter	N/A	N/A
Fourth Quarter	N/A	N/A
Fiscal year ended July 31, 2018		
First Quarter	N/A	N/A
Second Quarter	N/A	N/A
Third Quarter	$ 8.44	$ 3.05
Fourth Quarter	$ 10.31	$ 7.59

On October 15, 2018, there were 363 holders of record of our Class B common stock and one holder of record of our Class A common stock. All shares of Class A common stock are beneficially owned by Howard Jonas. The number of holders of record of our Class B common stock does not include the number of persons whose shares are in nominee or in "street name" accounts through brokers. On October 10, 2018, the last sales price reported on the NYSE American for the Class B common stock was $8.13 per share.

We do not anticipate paying dividends on our common stock until we achieve sustainable profitability (after satisfying all of our operational needs) and retain certain minimum cash reserves. Distributions will be subject to the need to retain earnings for investment in growth opportunities or the acquisition of complementary assets. The payment of dividends in any specific period will be at the sole discretion of our Board of Directors.

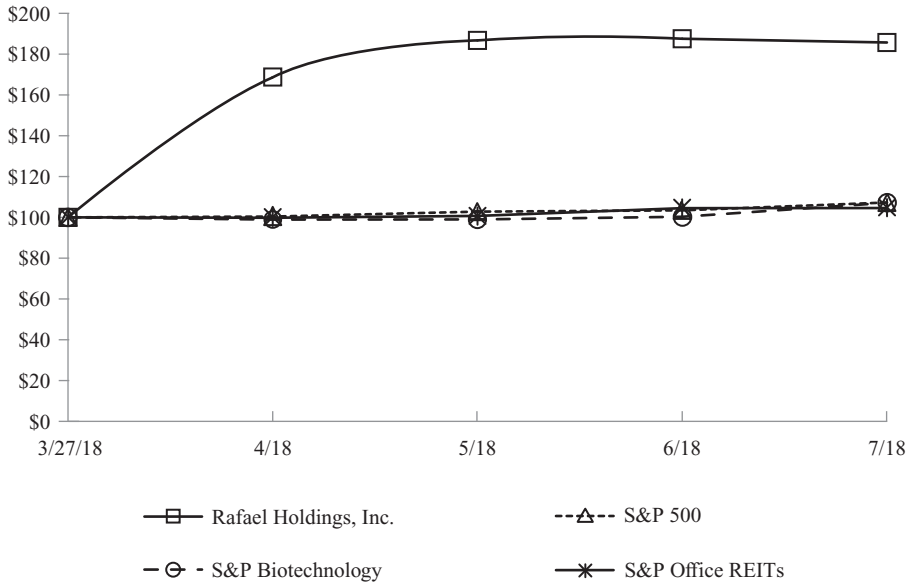
The information required by Item 201(d) of Regulation S-K will be contained in our Proxy Statement for our Annual Stockholders Meeting, which we will file with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Performance Graph of Stock

The line graph below compares the cumulative total stockholder return on our Class B common stock with the cumulative total return of the S&P Biotechnology Index, the Standard & Poor's 500 Index and the S&P Office REITs Index for the period beginning March 27, 2018 and ending July 31, 2018. The graph and table assume that $100 was invested on March 27, 2018 (the first day of trading for the Class B common stock) with the cumulative total return of the S&P Biotechnology Index, the Standard& Poor's 500 Index and the S&P Office REITs Index. Cumulative total stockholder returns for our Class B common stock, S&P Biotechnology Index, the Standard & Poor's 500 Index and the S&P Office REITs Index are based on our fiscal year**.**

COMPARISON OF 4 MONTH CUMULATIVE TOTAL RETURN*

Among Rafael Holdings, Inc., the S&P 500 Index,
the S&P Biotechnology Index and the S&P Office REITs Index



*$100 invested on 3/27/18 in stock or 3/31/18 in index, including reinvestment of dividends.
Fiscal year ending July 31.

	3/27/18	4/18	5/18	6/18	7/18
Rafael Holdings, Inc.	**100.00**	**167.35**	**186.73**	**187.55**	**185.71**
S&P 500	**100.00**	**100.38**	**102.80**	**103.43**	**107.28**
S&P Biotechnology	**100.00**	**98.90**	**98.98**	**100.28**	**107.12**
S&P Office REITs	**100.00**	**99.80**	**100.70**	**104.50**	**104.56**

Issuer Repurchases of Equity Securities

None.

Item 6. Selected Financial Data.

The selected consolidated and combined financial data presented below at July 31, 2018, 2017 and 2016, and for each of the fiscal years then ended has been derived from our Consolidated and Combined Financial Statements, which have been audited by Zwick & Banyai, P.L.L.C, independent registered public accounting firm. The selected consolidated and combined financial data should be read in conjunction with the Consolidated and Combined Financial Statements and the Notes thereto and other financial information appearing elsewhere in this Annual Report.

	2018	2017	2016
Year Ended July 31, (in thousands, except per share data)			
STATEMENT OF OPERATIONS DATA:			
Revenues	$ 4,405	$ 5,618	$ 5,589
(Loss) income from operations	(3,790)	221	1,192
(Loss) income from operations per common share – basic	$ (0.93)	$ 0.01	$ 0.06
(Loss) income from operations per common share – diluted	$ (0.93)	$ 0.01	$ 0.06

	2018	2017	2016
At July 31, (in thousands)			
BALANCE SHEET DATA:			
Total assets	$ 116,920	$ 86,204	$ 64,309

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including statements that contain the words "believes," "anticipates," "expects," "plans," "intends" and similar words and phrases. These forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from the results projected in any forward-looking statement. In addition to the factors specifically noted in the forward-looking statements, other important factors, risks and uncertainties that could result in those differences include, but are not limited to, those discussed under Item 1A to Part I "Risk Factors" in this Annual Report. The forward-looking statements are made as of the date of this Annual Report, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements. Investors should consult all of the information set forth in this report and the other information set forth from time to time in our reports filed with the Securities and Exchange Commission pursuant to the Securities Act of 1933 and the Securities Exchange Act of 1934, including our reports on Forms 10-Q and 8-K.

The following discussion should be read in conjunction with the Consolidated and Combined Financial Statements and Notes thereto included in Item 8 of this Annual Report.

Overview

Rafael owns commercial real estate assets and interests in clinical and early stage pharmaceutical companies. The assets are operated as two separate lines of business. The commercial real estate holdings consist of the building at 520 Broad Street in Newark, New Jersey that houses IDT's headquarters and its associated public garage, an office/data center building in Piscataway, New Jersey and a portion of a building in Israel that hosts offices for IDT and certain affiliates. The pharmaceutical holdings include debt, preferred equity interests and warrants in Rafael Pharmaceuticals, Inc., which is a clinical stage, oncology-focused, pharmaceutical company committed to the development and commercialization of therapies that exploit the metabolic differences between normal cells and cancer cells, and a majority equity interest in LipoMedix Pharmaceuticals Ltd., an early stage pharmaceutical development company based in Israel.

Real Estate

520 Broad Street in Newark New Jersey is a 20-story commercial office building containing approximately 496,000 square feet. The building was completed in 1957 and is of steel-frame construction with cast-in-place concrete floors. The facade is constructed of stone and metal framed glass curtain wall sections. The public garage has three levels plus additional surface parking that, in total, can accommodate in excess of 800 parking spaces. We have retained a leading real estate brokerage firm to market the building for potential sale or identify other alternatives to maximize value. The marketing efforts are anticipated to initiate in the second quarter of fiscal 2019.

The building serves as the headquarters of IDT Corporation and IDT's affiliate, Genie Energy, who occupy the second through fourth floors, which have been recently renovated. Currently, approximately 24.3% of the building is leased, 73.7% of which is leased to IDT and Genie, which are both publicly traded companies. The building was completely vacant when IDT began renovations in fiscal 2014; as such, all third party leases are in their initial term.

The IDT lease expires in April 2025 and is for 80,000 square feet and includes two parking spots per thousand square feet of space leased. The annual base rent is $1,498,400. IDT has the right to terminate the lease upon four months' notice, and upon early termination, IDT will pay a penalty equal to 25% of the portion of the rent due over the course of the remaining term. IDT has the right to lease an additional 25,000 square feet in the building on the same terms as the base lease, and other rights to a further 25,000 square feet should all available space be leased to other tenants. Upon expiration of the lease, IDT has the right to renew the lease for another 5 years on substantially the same terms, with a 2% increase in the rental payments.

The Genie lease expires in April 2025 and is for 8,631 square feet and includes two parking spots per thousand square feet of space leased. The annual base rent is $198,513. Genie has the right to terminate the lease upon four months' notice and upon early termination Genie will pay a penalty equal to 25% of the portion of the rent due over the course of the remaining term. Upon expiration of the lease, Genie has the right to renew the lease for another 5 years on substantially the same terms, with a 2% increase in the rental payments.

In addition to the IDT and Genie leases, there are three additional leases for space in the building. The first lease is for a portion of the sixth floor for an eleven-year term, of which the first six years are non-cancellable. The second lease is for a portion of the ground floor and basement for a term of ten years, seven months and the third lease is for another portion of the ground floor for a term of ten years, four months. The leases have all commenced. At July 31, 2018 and 2017, the carrying value of the land, building and improvements at 520 Broad Street was $45.2 million and $45.9 million, respectively.

The building in Piscataway, New Jersey is located at 225 Old New Brunswick Road: it is a three-story commercial office building containing approximately 65,000 square feet. The building was completed in 1978. Since its completion, the building has been leased as data space and therefore has ample power, diverse paths of fiber, back-up generators and dedicated HVAC units. Currently, approximately 28% of the building is leased to two data users. Both leases are to tenants who each occupy a portion of the first floor. One lease expires at the end of 2020 and the other lease expires at the end of October 2022. These two tenants have been in the building for over twenty years. While both leases have been renewed, there were not any tenant improvements or leasing commission for either renewal.

The space in Israel is a condominium portion of an office building located in the Har Hotzvim section of Jerusalem, Israel. The condominium, built in 2004, is approximately 12,400 square feet and the space is occupied by IDT and related parties. Har Hotzvim is a high-tech industrial park located in northwest Jerusalem. It is the city's main zone for science-based and technology companies, among them Intel, Teva and Mobileye. A related party terminated its lease as of June 30, 2017. As of July 31, 2018, IDT is leasing approximately 30% of the condominium. The leases associated with this space, to host offices for IDT and its affiliates, expire in April 2025, and have an aggregate annual base rent of $100,000. This space has no leases to unrelated parties.

Related parties represented approximately 51% and 64% of our total revenue for fiscal year 2018 and fiscal year 2017, respectively. As of August 1, 2017, we amended our related party leases to more accurately reflect the space currently being used by IDT and other affiliated companies. Had they been in place for the entirety of fiscal year 2017, these amendments would have resulted in a decrease of related party revenues of $1.7 million, with related parties then representing 51% of our adjusted total revenue for fiscal year 2017.

The following table represents a schedule of lease expirations, stating the number of tenants whose leases will expire, the total area in square feet covered by the leases, the annual rent represented by the leases and the percentage of gross annual rent represented by the leases:

Fiscal Year	Number of Tenants	Square Feet	Percentage of Minimum 2019 Rental Income
2019	—	N/A	N/A
2020	—	N/A	N/A
2021	1	10,216	8.7%
2022	—	N/A	N/A
2023	2	16,230	9.7%
2024	—	N/A	N/A
2025	2	101,031	68.2%
2026	—	N/A	N/A
2027	—	N/A	N/A
2028	—	N/A	N/A
Thereafter	2	23,474	13.4%

Depreciation and amortization expense of property, plant and equipment was $1.7 million, $1.7 million, and $1.6 million in fiscal 2018, fiscal 2017 and fiscal 2016, respectively.

Depending on market conditions and the success of our efforts to lease additional space, we anticipate making significant capital improvements to our real estate portfolio, including but not limited to, renovating common areas such as lobbies and bathrooms as well as building wide HVAC systems. If we are successful in leasing additional space in our buildings, we would likely expend additional funds for improvements to the tenant's space. We estimate costs of $30-50 per square foot on tenant improvements, which will be determined by our agreement with the tenants and dependent on many factors, including condition of the space, rental amount, lease length and other leasing criteria. The total estimated capital expenditures including building upgrades, tenant improvements and leasing commissions will be approximately $24 to $45 million comprised primarily of tenant improvements.

Pharmaceutical Investments

Rafael Pharmaceuticals' vision is to be the premier cancer bioenergetics/metabolism firm designing drugs to attack the proteins and enzymes reconfigured, re-regulated, and repurposed in cancer and responsible for the unique metabolic features of tumors. We own our interests/rights in Rafael Pharmaceuticals through a 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC. IDT-Rafael Holdings holds a warrant to purchase a significant stake in Rafael Pharmaceuticals, as well as other equity and governance rights in Rafael Pharmaceuticals, and owns 50% of CS Pharma, a non-operating entity which holds convertible debt and other rights to purchase equity interests in Rafael Pharmaceuticals.

Those interests/rights include:

1. $10,000,000 of Series D Convertible Notes of Rafael Pharmaceuticals held by CS Pharma.

2. A warrant to purchase up to 56% of the capital stock of Rafael Pharmaceuticals — the right to exercise the first $10,000,000 worth of the warrant is held by CS Pharma; and the remainder is held directly by IDT-Rafael Holdings.

3. On September 5, 2018, CS Pharma exercised the first $10 million of warrants to purchase 8.0 million shares of Series D Convertible Preferred Stock of Rafael Pharmaceuticals, representing approximately 13.5% of the outstanding equity of Rafael Pharmaceuticals.

We also have certain governance rights, including appointment of directors.

On September 19, 2017, IDT approved a compensatory arrangement with Howard S. Jonas related to the right held by IDT-Rafael Holdings to receive additional Rafael Pharmaceutical shares ("Bonus Shares") upon the achievement of certain milestones. Under that arrangement, IDT and the Company transferred to Howard Jonas

the contractual right to receive "Bonus Shares" for an additional 10% of the outstanding capital stock of Rafael Pharmaceuticals that was previously held by IDT-Rafael Holdings, which is contingent upon achieving certain milestones. This right was previously held by IDT-Rafael Holdings, of which Howard Jonas is a 10% owner, subject to its right to transfer to recipients that IDT-Rafael Holdings, in its sole discretion, felt merit because of special efforts by such persons in assisting Rafael Pharmaceuticals and its products. IDT-Rafael Holdings distributed the rights to its members and we transferred the portion we received to Howard Jonas. If any of the milestones are met, the Bonus Shares are to be issued without any additional payment. Howard Jonas has the right to transfer the Bonus Shares, in his discretion, to others, including those who are instrumental to the future success of Rafael Pharmaceuticals.

On March 2, 2017, Howard Jonas, our Chairman of the Board, and Chairman of the Board of Rafael Pharmaceuticals purchased 10% of IDT-Rafael Holdings, LLC, in which the Company's direct and indirect interest and rights in Rafael Pharmaceuticals were held, for a purchase price of $1 million, which represented 10% of the Company's cost basis in IDT-Rafael Holdings. We hold our interest in CS Pharma through our 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC, which holds a 50% interest in CS Pharma. Accordingly, we will hold an effective 45% indirect interest in the assets held by CS Pharma, including its cash. Separately, Howard Jonas and Deborah Jonas jointly own $525,000 of Series C Convertible Notes of Rafael Pharmaceuticals, and The Howard S. and Deborah Jonas Foundation owns $525,000 of Series C Notes of Rafael Pharmaceuticals.

David Polinsky, our Chief Financial Officer, and certain family members and entities own $480,000 of Series C Convertible Notes of Rafael Pharmaceuticals, 4,045,041 common shares of Rafael Pharmaceuticals, as well as hold a loan receivable from Rafael Pharmaceuticals of $1,225,650. David Polinsky is also owed deferred salary of $203,592, which remains outstanding from his previous period of employment at Rafael Pharmaceuticals.

Additionally, officers of Rafael Holdings hold the following options to purchase shares of Rafael Pharmaceuticals:

	Grant Date	Options	Vesting Period	Price
David Polinsky	7/1/09	60,000	1 Year	$ 1.00
Howard Jonas	4/1/13	100,000	4 Years	1.25
David Polinsky	10/16/13	75,000	4 Years	1.25
Menachem Ash	8/1/17	500,000	3 Years	1.25

The Series D Stock has a stated value of $1.25 per share (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series D Preferred Stock or any dilutive issuances, as described below). Holders of Series D Stock are entitled to receive non-cumulative dividends when, as and if declared by the board of Rafael Pharmaceuticals, prior to any dividends to any other class of capital stock of Rafael Pharmaceuticals. In the event of any liquidation, dissolution or winding up of the Company, or in the event of any deemed liquidation, proceeds from such liquidation, dissolution, winding up shall be distribute first to the holders of Series D Stock. Except with respect to certain major decisions, or as required by law, holders of Series D Stock vote together with the holders of the other preferred stock and common stock and not as a separate class.

The Rafael Pharmaceuticals Series D Note earns interest at 3.5% per annum, with principal and accrued interest due and payable on September 16, 2018 . The Company and Rafael Pharmaceuticals are in discussions regarding the maturity of the Series D Note. The Series D Note is convertible at the holder's option into shares of Rafael Pharmaceuticals' Series D Preferred Stock. The Series D Note also includes a mandatory conversion into Rafael Pharmaceuticals common stock upon a qualified initial public offering, and conversion at the holder's option upon an unqualified financing event. In all cases, the Series D Note conversion price is based on the applicable financing purchase price. We and CS Pharma were issued warrants to purchase shares of capital stock of Rafael Pharmaceuticals representing up to 56% of the then issued and outstanding capital stock of Rafael Pharmaceuticals, on an as-converted and fully diluted basis. The right to exercise warrants as to the first $10 million thereof is owned by CS Pharma and the remainder is owned by IDT-Rafael Holdings. The warrant expires on December 31, 2020. Currently, if Rafael Holdings desires to raise additional financing from unaffiliated parties in connection with its exercise of its warrant or other current rights to invest in Rafael Pharmaceuticals (but not including the Rafael Pharmaceuticals rights held by CS Pharma), it first must give the other CS Pharma holders the opportunity to provide such financing on a pro rata basis. The exercise price of the warrant is the lower of 70% of the price sold in an equity financing, or $1.25 per share, subject to certain adjustments. The minimum initial and subsequent exercises

of the warrant shall be for such number of shares that will result in at least $5 million of gross proceeds to Rafael Pharmaceuticals, or such lesser amount as represents 5% of the outstanding capital stock of Rafael Pharmaceuticals, or such lesser amount as may then remain unexercised. The warrant will expire upon the earlier of December 31, 2020 or a qualified initial public offering or liquidation event of Rafael Pharmaceuticals.

On September 5, 2018, CS Pharma exercised the first $10 million of warrants to purchase 8.0 million shares of Series D Convertible Preferred Stock of Rafael Pharmaceuticals, representing approximately 13.5% of the outstanding equity of Rafael Pharmaceuticals.

As of October 15, 2018,and based on the current shares issued and outstanding of Rafael Pharmaceuticals, we, and our affiliates that hold interests in Rafael Pharmaceuticals would need to pay in the aggregate approximately $61 million to exercise the warrant in full and approximately $46 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. On an as-converted fully diluted basis (for all convertible securities of Rafael Pharmaceuticals outstanding), we and our affiliates that hold interests in Rafael Pharmaceuticals would need approximately $112 million to exercise the Warrant in full and approximately $88 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. Following that exercise, a portion of our interest in Rafael Pharmaceuticals would continue to be held for the benefit of the other equity holders in IDT-Rafael Holdings and CS Pharma.

We serve as the managing member of IDT-Rafael Holdings and IDT-Rafael Holdings serves as the managing member of CS Pharma, with broad authority to make all key decisions regarding their respective holdings. Any distributions that are made to CS Pharma from Rafael Pharmaceuticals that are in turn distributed by CS Pharma, will need to be made pro rata to all members, which would entitle IDT-Rafael Holdings to 50% (based on current ownership) of such distributions. Similarly, if IDT-Rafael Holdings were to distribute proceeds it receives from CS Pharma, it would do so on a pro rata basis, entitled the Company to 90% (based on current ownership) of such distributions.

Rafael Pharmaceuticals is a variable interest entity; however, we have determined that we are not the primary beneficiary as we do not have the power to direct the activities of Rafael Pharmaceuticals that most significantly impact Rafael Pharmaceuticals' economic performance. At July 31, 2018, July 31, 2017 and July 31, 2016, the Company's investment in Rafael Pharmaceuticals was $11.7 million, $12.1 million and $2.0 million, respectively. In addition to interests issued to IDT-Rafael Holdings, CS Pharma has issued member interests to third parties in exchange for cash investment in CS Pharma of $10.0 million. At July 31, 2018, July 31, 2017 and July 31, 2016, CS Pharma had received $10.0 million, $10.0 million and $8.8 million, respectively, of such investment.

As of March 26, 2018, IDT had provided Rafael Pharmaceuticals with $1.6 million in working capital financing that remains outstanding. The related receivable from Rafael Pharmaceutical was transferred by IDT to us prior to the Spin-Off. Subsequent to the Spin-Off through July 31, 2018, we provided Rafael Pharmaceuticals with $1.7 million in working capital financing, resulting in a total balance of $3.3 million that remains outstanding relating to working capital financing. In addition, we perform certain administrative services for Rafael Pharmaceuticals, for which we charge a monthly fee of approximately $40,000. As of July 31, 2018, a balance of approximately $162,000 remains outstanding for services performed between the Spin-Off date and July 31, 2018.

LipoMedix is a development-stage, privately held Israeli company focused on the development of an innovative, safe and effective cancer therapy based on liposome delivery. We own ordinary shares of LipoMedix representing approximately 50.6% of the issued and outstanding ordinary shares, which were purchased in fiscal 2016-2018 for $2.4 million.

We own ordinary shares of LipoMedix representing approximately 50.6% of the issued and outstanding ordinary shares, which were purchased in fiscal 2016-2018 for $2.4 million, as well as a $875,000 Bridge Note, which is convertible into shares of LipoMedix upon the completion of: sales an aggregate $2.0 million of additional LipoMedix equity securities; upon a Distribution Event; or on January 6, 2020.

Reportable Segments

Our business consists of two reportable segments Real Estate and Pharmaceuticals.

Presentation of financial information

Critical Accounting Policies

Our financial statements and accompanying notes are prepared in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses as well as the disclosure of contingent assets and liabilities. Critical accounting policies are those that require application of management's most subjective or complex judgments, often as a result of matters that are inherently uncertain and may change in subsequent periods. Management bases its estimates and judgments on historical experience and other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. See Note 1 to the Consolidated and Combined financial statements in this Information Statement for a complete discussion of our significant accounting policies.

Income Taxes

The accompanying financial statements include provisions for federal, state and foreign income taxes. We joined with our Parent and other subsidiaries in filing a federal income tax return on a combined basis prior to the Spin-Off. Our income taxes for the period prior to the Spin-Off are calculated on a separate tax return basis. Our income taxes for the period subsequent to the Spin-Off will be filed on our initial consolidated standalone return with the IRS.

We recognize deferred tax assets and liabilities for the future tax consequences attributable to temporary differences between the financial statements carrying amounts of existing assets and liabilities and their respective tax bases. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The ultimate realization of deferred tax assets depends on the generation of future taxable income during the period in which related temporary differences become deductible. We consider the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in its assessment of a valuation allowance. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of such change.

We use a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. We determine whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. Tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of tax benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Differences between tax positions taken in a tax return and amounts recognized in the financial statements will generally result in one or more of the following: an increase in a liability for income taxes payable, a reduction of an income tax refund receivable, a reduction in a deferred tax asset, or an increase in a deferred tax liability.

We classify interest and penalties on income taxes as a component of income tax expense.

In November 2015, the FASB issued Accounting Standards Update ("ASU") 2015-17, "*Balance Sheet Classification of Deferred Taxes*." This update requires an entity to classify deferred tax liabilities and assets as noncurrent within a classified statement of financial position. ASU 2015-17 is effective for annual reporting periods, and interim periods therein, beginning after December 15, 2016. This update may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. Early application is permitted as of the beginning of the interim or annual reporting period. We adopted ASU 2015-17 as of August 1, 2015. The adoption of ASU 2015-17 did not have a material impact on our consolidated and combined financial statements.

Investments in Uncombined Entities

We consolidate variable interest entities (VIEs) in which we are considered to be the primary beneficiary. VIEs are entities in which the equity investors do not have sufficient equity at risk to finance their endeavors without additional financial support or that the holders of the equity investment at risk do not have a controlling financial interest. The primary beneficiary is defined by the entity having both of the following characteristics: (1) the power to direct the activities that, when taken together, most significantly impact the variable interest entity's performance, and (2) the obligation to absorb losses and right to receive the returns from the variable interest entity that would be significant to the variable interest entity. Our judgment with respect to our level of influence or control of an entity involves the consideration of various factors including the form of our ownership interest, our representation in the entity's governance, the size of our investment (including loans), estimates of future cash flows, our ability to participate in policy making decisions and the rights of the other investors to participate in the decision making process and to replace us as manager and/or liquidate the venture, if applicable. Our assessment of our influence or control over an entity affects the presentation of these investments in our consolidated and combined financial statements. In addition to evaluating control rights, we consolidate entities in which the outside partner has no substantive kick-out rights to remove us as the managing member.

Accounts of the combined entity are included in our accounts and the non-controlling interest is reflected on the combined balance sheets as a component of equity. Investments in uncombined entities are recorded initially at cost, and subsequently adjusted for equity in earnings and cash contributions and distributions. Any difference between the carrying amount of these investments on the balance sheet and the underlying equity in net assets is amortized as an adjustment to equity in earnings of uncombined entity over the life of the related asset. Under the equity method of accounting, our net equity investment is reflected within the combined balance sheets, and our share of net income or loss from the investment is included within the consolidated and combined statements of operations. Our investments in uncombined entities are reviewed for impairment periodically and we record impairment charges when events or circumstances change indicating that a decline in the fair values below the carrying values has occurred and such decline is other-than-temporary. The ultimate realization of the investment in uncombined entity is dependent on a number of factors, including the performance of each investment and market conditions. We will record an impairment charge if we determine that a decline in the value below the carrying value of an investment in an uncombined entity is other-than-temporary.

To the extent that we contribute assets to an uncombined entity, our investment therein is recorded at our cost basis in the assets that were contributed. To the extent that our cost basis is different than the basis reflected at the entity level, the basis difference is amortized over the life of the related asset and included in our share of equity in net income of the entity.

Other

In March 2016, the FASB issued an ASU to improve the accounting for employee share-based payments. The new standard simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. We adopted the new standard on August 1, 2017. The adoption of this new standard did not have a significant impact on our consolidated and combined financial statements.

Recently Issued Accounting Standards Not Yet Adopted

In May 2014, the Financial Accounting Standards Board ("FASB"), and the International Accounting Standards Board jointly issued a comprehensive new revenue recognition standard that will supersede most of the current revenue recognition guidance under U.S. GAAP and International Financial Reporting Standards ("IFRS"). The goals of the revenue recognition project were to clarify and converge the revenue recognition principles under U.S. GAAP and IFRS and to develop guidance that would streamline and enhance revenue recognition requirements. We will adopt this standard on August 1, 2018. Entities have the option of using either a full retrospective or modified retrospective approach for the adoption of the standard. We are evaluating the impact that the standard will have on our consolidated financial statements.

In January 2016, the FASB issued an ASU to provide more information about recognition, measurement, presentation and disclosure of financial instruments. The Company adopted the amendments in this ASU on August 1, 2018. The amendments in the ASU include, among other changes, the following: (1) equity investments

(except those accounted for under the equity method or that result in consolidation) will be measured at fair value with changes in fair value recognized in net income, (2) a qualitative assessment each reporting period to identify impairment of equity investments without readily determinable fair values, (3) financial assets and financial liabilities will be presented separately by measurement category and form of financial asset on the balance sheet or the notes to the financial statements, and (4) an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets. Entities will no longer be able to recognize unrealized holding gains and losses on equity securities classified as available-for-sale in other comprehensive income. In addition, a practicability exception will be available for equity investments that do not have readily determinable fair values and do not qualify for the net asset value practical expedient. These investments may be measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer. Entities will have to reassess at each reporting period whether an investment qualifies for this practicability exception. We are evaluating the impact that the standard will have on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, and has since issued amendments thereto, related to the accounting for leases. The new standard establishes a right-of-use ("ROU") model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The Company will adopt the new standard on August 1, 2019. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. Entities have the option to continue to apply historical accounting under Topic 840, including its disclosure requirements, in comparative periods presented in the year of adoption. An entity that elects this option will recognize a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption instead of the earliest period presented. We are evaluating the impact that the new standard will have on our consolidated financial statements.

In June 2016, the FASB issued an ASU that changes the impairment model for most financial assets and certain other instruments. For receivables, loans and other instruments, entities will be required to use a new forward-looking "expected loss" model that generally will result in the earlier recognition of allowance for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses in a manner similar to current practice, except the losses will be recognized as allowances instead of reductions in the amortized cost of the securities. In addition, an entity will have to disclose significantly more information about allowances, credit quality indicators and past due securities. The new provisions will be applied as a cumulative-effect adjustment to retained earnings. We will adopt the new standard on August 1, 2020. We are evaluating the impact that the new standard will have on our consolidated financial statements.

In August 2017, the FASB issued an ASU intended to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. In addition, the ASU includes certain targeted improvements to simplify the application of hedge accounting guidance in U.S. GAAP. The amendments in this ASU are effective for the Company on August 1, 2019. Early application is permitted. Entities will apply the amendments to cash flow and net investment hedge relationships that exist on the date of adoption using a modified retrospective approach. The presentation and disclosure requirements will be applied prospectively. We are evaluating the impact that this ASU will have on our consolidated financial statements.

In June 2018, the FASB issued an ASU to simplify several aspects of the accounting for nonemployee share-based payment transactions by expanding the scope of Topic 718, *Compensation — Stock Compensation*, to include share-based payment transactions for acquiring goods and services from nonemployees. An entity should apply the requirements of Topic 718 to nonemployee awards except for specific guidance on inputs to an option pricing model and the attribution of cost (that is, the period of time over which share-based payment awards vest and the pattern of cost recognition over that period). The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, *Revenue from Contracts with Customers*. The amendments in this ASU are effective for the Company on August 1, 2019. We are evaluating the impact that this ASU will have on our consolidated financial statements.

In August 2018, the FASB issued an ASU that modifies the disclosure requirements for fair value measurements. The amendments in this ASU are effective for the Company on August 1, 2020. An entity is permitted to early adopt any removed or modified disclosures and delay adoption of the additional disclosures until their effective date. We expect to adopt this ASU for our financial statements beginning in the first quarter of fiscal 2019. The adoption of this ASU will only impact the fair value measurement disclosures in our consolidated financial statements.

Results of Operations

Our business consists of two reportable segments. We evaluate the performance of our Real Estate segment based primarily on income (loss) from operations and our Pharmaceuticals segment based primarily on research and development efforts and results of clinical trials. Accordingly, the income and expense line items below income (loss) from operations are only included in the discussion of consolidated and combined results of operations.

Fiscal Year Ended July 31, 2018 Compared to Fiscal Years Ended July 31, 2017 and July 31, 2016:

Real Estate Segment

	Fiscal Year ended July 31, (in thousands)			2018 change from 2017		2017 change from 2016	
	2018	2017	2016	$	%	$	%
Rental – Third Party Revenues	$ 1,275	$ 989	$ 746	$ 286	28.9%	$ 243	32.6%
Rental – Related Party Revenues	2,223	3,705	3,729	(1,482)	(40.0)	(24)	(0.6)
Parking Revenues	873	924	1,114	(51)	(5.5)	(190)	(17.1)
Selling, general and administrative	(5,455)	(3,728)	(2,754)	(1,727)	(46.3)	(974)	(35.4)
Depreciation and amortization	(1,696)	(1,669)	(1,643)	(27)	(1.6)	(26)	1.6
(Loss) income from operations	$ (2,780)	$ 221	$ 1,192	$ (3,001)	(1,357.9)%	$ (971)	(81.5)%

nm — not meaningful

Revenues. Revenues decreased $1.2 million in fiscal year 2018 compared to fiscal year 2017. Related party revenues decreased $1.4 million due to amendments to the related party leases effective August 1, 2017. Parking revenues decreased due to the net loss of three third-party customers during fiscal year 2018. Third party revenue increased in fiscal year 2018 compared to fiscal year 2017 due to commencement of two new leases in the 520 Broad Street building.

Revenues decreased $29,000 in fiscal year 2017 compared to fiscal year 2016. Related party revenues decreased $24,000 due mainly to IDT no longer having any personnel working from the Piscataway building. Parking revenues decreased due to the loss of three third-party customers during fiscal year 2017. Third party rental revenue increased in fiscal year 2017 compared to fiscal year 2016 due to a new tenant in the 520 Broad Street building and an increase in tenant reimbursed utility expenses for the Piscataway building.

Selling, general and administrative expense. Selling, general and administrative expense consists mainly of payroll, benefits, facilities and consulting and professional fees. The $1.7 million increase in selling, general and administrative expenses in fiscal year 2018 compared to fiscal year 2017 is primarily due to the September 2017 compensatory arrangement under which the contingent right to receive additional equity interests in Rafael Pharmaceuticals held by IDT-Rafael Holdings was transferred to Howard S. Jonas, resulting in fiscal year 2018 compensation expense of $606,000, an increase in payroll as well as stock based compensation of $343,000 related to newly retained management and employees, an increase in legal and consulting fees of $483,000 in connection with the Spin-Off and $174,000 in expenses related to the Company being a public company and D&O insurance, as well as an increase of $78,000 in real estate taxes.

The increase in selling, general and administrative expenses in fiscal year 2017 compared to fiscal year 2016 is primarily due to an increase in real estate and parking taxes of $370,000, an increase in allocated expenses from IDT of $270,000 and an increase in consulting fees of $225,000.

Depreciation and amortization expense. Depreciation and amortization expenses remained consistent in fiscal year 2018 compared to fiscal year 2017 and in fiscal year 2017 compared to fiscal year 2016.

Pharmaceuticals Segment

	Fiscal Year ended July 31, (in thousands)			2018 change from 2017		2017 change from 2016	
	2018	2017	2016	$	%	$	%
Selling, general and administrative	$ (64)	$ —	$ —	$ (64)	nm	$ —	—%
Research & development	(995)	—	—	(995)	nm	$ —	—%
Depreciation and amortization	(2)	—	—	(2)	nm	—	—
Income (loss) from operations	$ (1,061)	$ —	$ —	$ (1,061)	nm	$ —	—%

nm — not meaningful

To date, the Pharmaceuticals segment has not generated any revenues. The entirety of the expenses in the Pharmaceuticals segment relate to the operating and research and development activities of LipoMedix, of which we are a 50.6% owner.

Combined operations

Our combined income and expense line items below income (loss) from operations were as follows:

	Fiscal Year ended July 31, (in thousands)			2018 change from 2017		2017 change from 2016	
	2018	2017	2016	$	%	$	%
(Loss) income from operations	$ (3,841)	$ 221	$ 1,192	$ (4,062)	(1,838.0)%	$ (971)	(81.5)%
Interest income (expense), net	16	10	(20)	6	60.0	30	nm
Net gains resulting from sales of marketable securities	12	—	—	12	nm	—	—
Net gains (losses) resulting from foreign exchange transactions	32	86	(13)	(54)	(62.8)	99	nm
Net loss on equity investments	(104)	—	—	(104)	nm	—	—
Gain on disposal of bonus shares	246	—	—	246	nm	—	—
(Provision for) benefit from income taxes	(8,437)	(66)	(449)	(8,371)	(12,683.3)	(383)	(85.3)
Other	—	(113)	—	113	100.0	(113)	nm
Net income (loss)	$ (12,076)	$ 138	$ 710	$ (12,214)	(8,847.1)%	$ (572)	(80.6)%

Interest income, net and Net gains resulting from sales of marketable securities. Interest income and net gains resulting from sales of marketable securities in fiscal year 2018 increased due to interest earned on the $31 million of marketable securities contributed by IDT as of the Spin-Off on March 26, 2018.

Net gains (losses) resulting from foreign exchange transactions. Net losses resulting from foreign exchange transactions are generated entirely from movements in New Israeli Shekels relative to the U.S. Dollar.

Net loss on equity investment. Net loss on equity investment relates entirely to our proportionate share of the net loss recorded by LipoMedix, in which we held a 38.9% interest before purchasing a majority stake during November 2017, prior to its being consolidated.

Gain on disposal of bonus shares. The gain on disposal of bonus shares relates entirely to the increase in fair value of the contingent right to receive bonus shares obtained during fiscal year 2017 from the date of purchase through assigning the rights thereto over to Howard Jonas in September 2017.

Provision for income taxes. The increase in the provision for income taxes during fiscal year 2018 as compared to fiscal year 2017 relates to the valuation allowance of $8.4 million recorded to reserve for the entirety of the Company's domestic deferred tax asset during the first quarter of fiscal 2018. Decreases in the provision

for income taxes during fiscal year 2017 as compared to fiscal year 2016 directly relate to the decrease in Rafael Holdings' profitability in fiscal year 2017.

Liquidity and Capital Resources

General

Historically, we satisfied our cash requirements primarily through intercompany debt funding from IDT. In connection with the Spin-Off, IDT transferred assets to Rafael such that, at the time of the Spin-Off, we had approximately $42.7 million in cash and cash equivalents and liquid marketable securities and approximately $3.9 million in interests in hedge funds. Additionally, IDT transferred approximately $2.0 million in securities in another entity that are not liquid. The cash and cash equivalents and liquid marketable securities figure included $10.0 million held in CS Pharma, a controlled entity of which we are an effective 45% owner. Additionally, $1.6 million in outstanding intercompany debt between IDT and Rafael Holdings as of the distribution date was converted to equity and there was no indebtedness from Rafael Holdings to IDT immediately following the Spin-Off. Prior to the Spin-Off, we maintained an intercompany balance due to IDT that related to advances for investments and purchases of property and equipment, as well as charges for services provided to us by IDT and payroll costs for our personnel that are paid by IDT, partially offset by revenues earned from leases to IDT. We anticipate our total operating costs will increase from historical levels as a result of being a public reporting company. Several of the costs included in this estimated range are preliminary, subject to negotiation, and may vary from the estimates when finalized.

As of July 31, 2018, we had cash and cash equivalents of $15.8 million and liquid marketable securities of $24.7 million. We expect our cash from operations in the next twelve months and the balance of cash and cash equivalents and liquid marketable securities that we held as of July 31, 2018 to be sufficient to meet our currently anticipated working capital, research and development, and capital expenditure requirements during the twelve-month period ending July 31, 2019.

(in thousands)	Year Ended July 31,		
	2018	2017	2016
		(in thousands)	
Cash flows provided by (used in)			
Operating activities	$ (1,815)	$ (1,623)	$ 72
Investing activities	4,109	(11,220)	(3,653)
Financing activities	1,750	22,260	265
Effect of exchange rates on cash and cash equivalents	(3)	—	3
Increase (decrease) in cash and cash equivalents	$ 4,047	$ 9,417	$ (3,313)

Operating Activities

Our cash flow from operations varies from year to year, depending on our operating results and the timing of operating cash receipts and payments, specifically payments of trade accounts payable. The decrease in cash flows provided by operating activities in fiscal year 2018 related primarily to the net loss from operations. The decrease in cash flows provided by operating activities in fiscal year 2017 as compared to fiscal year 2016 relates to decreased net income, as well as a successful appeal of 2012 and 2013 calendar year real estate taxes, generating a refund of $480,000, during fiscal year 2016 and an increase of $480,000 in other assets.

Investing Activities

Cash used in investing activities for fiscal year 2018 related to proceeds from the sale and maturity of marketable securities, partially offset by cash advances to related parties of $1.7 million, fixed asset additions of $710,000 and purchases of investments of $151,000. Cash used in investing activities for fiscal year 2017 and fiscal year 2016 consisted mostly of investments in Rafael Pharmaceuticals (through CS Pharma) of $8.0 million and $2.0 million during fiscal year 2017 and fiscal year 2016, respectively, and purchases of fixed assets related to the build-out of the building at 520 Broad Street in Newark, NJ of $1.5 million during fiscal year 2016.

Financing Activities

Cash provided by financing activities for fiscal year 2018 related to cash advances from IDT of $886,000, as well as $864,000 in proceeds from the deposit on sale of 10% interest in Rafael Holdings, Inc. to Howard S. Jonas. In connection with our investment in Rafael Pharmaceuticals, our subsidiary CS Pharma issued member interests to third parties in exchange for cash investment in CS Pharma of $10 million. We hold a 90% interest in IDT-Rafael Holdings, LLC, which holds a 50% interest in CS Pharma, and we are the managing member of both entities. In fiscal year 2017, CS Pharma received $10.0 million from the sale of its member interests to third parties. It is expected that CS Pharma will use its cash to invest in Rafael Pharmaceuticals. Additionally, during fiscal 2017 we sold 10% of IDT-Rafael Holdings, LLC, in which our direct and indirect interest and rights in Rafael Pharmaceuticals were held, to Howard Jonas for $1.0 million, which represented 10% of the Company's cost basis in IDT-Rafael Holdings. As we hold our interest in CS Pharma through our 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC, which holds a 50% interest in CS Pharma, we will hold an effective 45% indirect interest in the assets held by CS Pharma, including its cash. Cash provided by financing activities related to cash advances from IDT was $11.0 million and $6.5 million during fiscal year 2017 and fiscal year 2016, respectively. These increases were offset by repayments on a note payable of $6.4 million in fiscal year 2016 related to paying off the balance of the note payable on the Piscataway building.

We do not anticipate paying dividends on our common stock until we achieve sustainable profitability and retain certain minimum cash reserves. The payment of dividends in any specific period will be at the sole discretion of our Board of Directors.

CHANGES IN PROPERTY AND EQUIPMENT

Gross Property and Equipment decreased to $65.7 million at July 31, 2018, from $65.0 million at July 31, 2017 and from $63.1 million at July 31, 2016, primarily due to fixed asset additions of $776,000, $1.7 million, and $1.6 million during the years ended July 31, 2018, July 31, 2017, and July 31, 2016, respectively. Depreciation expense was $1.7 million, $1.7 million, and $1.6 million during the years ended July 31, 2018, July 31, 2017, and July 31, 2016, respectively, and disposals of undepreciated WIP inventory of $13,000 during the year ended July 31, 2018 and fully depreciated assets of $765,000 during the year ended July 31, 2016.

OFF-BALANCE SHEET ARRANGEMENTS

As of July 31, 2018, we did not have any "off-balance sheet arrangements," as defined in relevant SEC regulations that are reasonably likely to have a current or future effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

In connection with the Spin-Off, we and IDT entered into a tax separation agreement, which sets forth the responsibilities of IDT and us with respect to, among other things, liabilities for federal, state, local and foreign taxes for periods before and including the Spin-Off, the preparation and filing of tax returns for such periods and disputes with taxing authorities regarding taxes for such periods. IDT will be generally responsible for our federal, state, local and foreign income taxes for periods before and including the Spin-Off. We will be generally responsible for all other taxes relating to our business. We and IDT will each generally be responsible for managing those disputes that relate to the taxes for which each of us is responsible and, under certain circumstances, may jointly control any dispute relating to taxes for which both of us are responsible.

Item 7A. Quantitative and Qualitative Disclosures about Market Risks.

FOREIGN CURRENCY RISK

Revenue from tenants located in Israel represented 6%, 5% and 5% of our consolidated and combined revenues in the fiscal year ended July 31, 2018, the fiscal year ended July 31, 2017 and the fiscal year ended July 31, 2016, respectively. The entirety of these revenues is in currencies other than the U.S. Dollar. Our foreign currency exchange risk is somewhat mitigated by our ability to offset a portion of these non U.S. Dollar-denominated revenues with operating expenses that are paid in the same currencies. While the impact from fluctuations in foreign exchange rates affects our revenues and expenses denominated in foreign currencies, the net amount of our exposure to foreign currency exchange rate changes at the end of each reporting period is generally not material.

INVESTMENT RISK

In addition to, but separate from our primary business, we will hold a portion of our assets in marketable securities, hedge funds and a passive investment in another entity. Investments in marketable securities and hedge funds carry a degree of risk, and depend to a great extent on correct assessments of the future course of price movements of securities and other instruments. There can be no assurance that our investment managers will be able to accurately predict these price movements. The securities markets have in recent years been characterized by great volatility and unpredictability. Our passive interests in other entities are not currently liquid and we cannot assure that they we will be able to liquidate them when we desire, or ever. Accordingly, the value of our investments may go down as well as up and we may not receive the amounts originally invested upon redemption.

Item 8. Financial Statements and Supplementary Data.

The Consolidated and Combined Financial Statements of the Company and the report of the independent registered public accounting firm thereon starting on page F-1 are included herein.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our Chief Executive Officer and Principal Financial Officer have evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended), as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our Chief Executive Officer and Principal Financial Officer have concluded that our disclosure controls and procedures were effective as of July 31, 2018.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the fourth quarter of fiscal 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Attestation Report of the Registered Public Accounting Firm

This Annual Report on Form 10-K does not include an attestation report of our independent registered public accounting firm due to an exemption established by the JOBS Act for “emerging growth companies.”

Item 9B. Other Information.

None.

Part III

Item 10. Directors, Executive Officers and Corporate Governance.

The following is a list of our directors and executive officers along with the specific information required by Rule 14a-3 of the Securities Exchange Act of 1934:

Executive Officers

Howard S. Jonas — Chairman of the Board and Chief Executive Officer
David Polinsky — Chief Financial Officer
Menachem Ash — President and General Counsel

Directors

Howard S. Jonas — Chairman of the Board

Stephen Greenberg
Dr. Boris C. Pasche
Dr. Michael J. Weiss

The remaining information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Corporate Governance

We have included as exhibits to this Annual Report on Form 10-K certificates of our Chief Executive Officer and Principal Financial Officer certifying the quality of our public disclosure.

We make available free of charge through the investor relations page of our web site (http://rafaelholdings.irpass.com/) our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports, and all beneficial ownership reports on Forms 3, 4 and 5 filed by directors, officers and beneficial owners of more than 10% of our equity, as soon as reasonably practicable after such reports are electronically filed with the Securities and Exchange Commission. We have adopted codes of business conduct and ethics for all of our employees, including our principal executive officer, principal financial officer and principal accounting officer. Copies of the codes of business conduct and ethics are available on our web site.

Our web site and the information contained therein or incorporated therein are not intended to be incorporated into this Annual Report on Form 10-K or our other filings with the Securities and Exchange Commission.

Item 11. Executive Compensation.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Item 14. Principal Accounting Fees and Services.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after July 31, 2018, and which is incorporated by reference herein.

Part IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this Report:

1. Report of Independent Registered Public Accounting Firm on Consolidated and Combined Financial Statements

   Consolidated and Combined Financial Statements covered by Report of Independent Registered Public Accounting Firms

2. Financial Statement Schedule.

   All schedules have been omitted since they are either included in the Notes to Consolidated and Combined Financial Statements or not required or not applicable.

3. Exhibits. The exhibits listed in paragraph (b) of this item are filed, furnished, or incorporated by reference as part of this Form 10-K.

   Certain of the agreements filed as exhibits to this Form 10-K contain representations and warranties by the parties to the agreements that have been made solely for the benefit of the parties to the agreement. These representations and warranties:

   - may have been qualified by disclosures that were made to the other parties in connection with the negotiation of the agreements, which disclosures are not necessarily reflected in the agreements;
   - may apply standards of materiality that differ from those of a reasonable investor; and
   - were made only as of specified dates contained in the agreements and are subject to subsequent developments and changed circumstances.

   Accordingly, these representations and warranties may not describe the actual state of affairs as of the date that these representations and warranties were made or at any other time. Investors should not rely on them as statements of fact.

(b) Exhibits.

Exhibit Number	Description of Exhibits
3.1[(1)]	Amended and Restated Certificate of Incorporation of Rafael Holdings, Inc.
3.2[(1)]	Amended and Restated By-Laws of Rafael Holdings, Inc.
10.1[(1)]	2018 Equity Incentive Plan
10.2[(1)]	Transition Services Agreement
10.3[(1)]	Tax Separation Agreement
10.4[(1)]	Form of ISO Stock Option Agreement
10.5[(1)]	Form of Nonqualified Stock Option Agreement
10.6[(1)]	Form of Restricted Stock Agreement
10.7*	Stock Purchase Agreement by and between Rafael Holdings, Inc. and Howard S. Jonas, dated May 24, 2018
21.01*	Subsidiaries of the Registrant
23.01*	Consent of Zwick & Banyai, PLLC, Independent Registered Public Accounting Firm
31.01*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.02*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.01*	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.02*	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document

Exhibit Number	Description of Exhibits
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* filed herewith.

(1) Incorporated by reference to Form 10-12G/A, filed March 26, 2018.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

RAFAEL HOLDINGS, INC.

By: /s/ Howard S. Jonas

Howard S. Jonas
Chairman of the Board of Directors and
Chief Executive Officer

Date: October 15, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Titles	Date
/s/ Howard S. Jonas **Howard S. Jonas**	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	October 15, 2018
/s/ David Polinsky **David Polinsky**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	October 15, 2018
/s/ Stephen Greenberg **Stephen Greenberg**	Director	October 15, 2018
/s/ Boris C. Pasche **Dr. Boris C. Pasche**	Director	October 15, 2018
/s/ Michael J. Weiss **Dr. Michael J. Weiss**	Director	October 15, 2018

Rafael Holdings, Inc.

Index to Consolidated and Combined Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Rafael Holdings, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated and combined balance sheets of Rafael Holdings, Inc. ("Rafael Holdings" or the "Company") as of July 31, 2018 and 2017, and the related consolidated and combined statements of operations, comprehensive (loss) income, stockholders' and members' equity, and cash flows for each of the years in the three year period ended July, 2018, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of July 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended July 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Zwick & Banyai, PLLC
Zwick & Banyai, PLLC

We have served as the Company's auditor since 2017.

Southfield, Michigan
October 15, 2018

RAFAEL HOLDINGS, INC.
CONSOLIDATED AND COMBINED BALANCE SHEETS
(in thousands)

July 31,	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$ 15,803	$ 11,756
Trade accounts receivable, net of allowance for doubtful accounts of $82 at July 31, 2018 and 2017	287	264
Marketable securities	24,701	—
Due from Rafael Pharmaceuticals	3,300	—
Prepaid expenses and other current assets	421	147
Total current assets	44,512	12,167
Property and equipment, net	50,113	51,160
Investments – Rafael Pharmaceuticals	13,300	11,700
Investments – Other Pharmaceuticals	2,000	1,778
Investments – Hedge Funds	4,218	—
Deferred income tax assets, net	—	8,859
Patents	324	—
In-process research and development	1,327	—
Other assets	1,126	540
Total assets	$ 116,920	$ 86,204
Liabilities and equity		
Current liabilities:		
Trade accounts payable	$ 367	$ 115
Accrued expenses	500	213
Other current liabilities	24	35
Total current liabilities	891	363
Due to related parties	276	23,693
Other liabilities	188	70
Total liabilities	1,355	24,126
Commitments and contingencies		
Equity:		
Rafael Holdings, Inc. stockholders'/members' equity:		
Group equity	—	50,427
Class A common stock, $0.01 par value; authorized shares – 50,000,000; 787,163 and nil shares issued and outstanding as of July 31, 2018 and 2017, respectively	8	—
Class B common stock, $0.01 par value; authorized shares – 200,000,000; 11,762,346 and nil shares issued and outstanding as of July 31, 2018 and, 2017, respectively	118	—
Additional paid in capital	103,636	—
Accumulated deficit	(1,108)	—
Accumulated other comprehensive income	4,043	2,316
Total Rafael Holdings, Inc. stockholders'/members' equity	106,697	52,743
Noncontrolling interests	8,868	9,335
Total equity	115,565	62,078
Total liabilities and equity	$ 116,920	$ 86,204

See accompanying notes to consolidated and combined financial statements.

RAFAEL HOLDINGS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

Fiscal Years ended July 31,	2018	2017	2016
Revenues:			
Rental – Third Party	$ 1,275	$ 989	$ 746
Rental – Related Party	2,223	3,705	3,729
Parking	873	924	1,114
Total revenues	4,371	5,618	5,589
Costs and expenses:			
Selling, general and administrative	5,519	3,728	2,754
Research and development	995	—	—
Depreciation and amortization	1,698	1,669	1,643
(Loss) income from operations	(3.841)	221	1,192
Interest income	(16)	(10)	20
Net losses (gains) resulting from foreign exchange transactions	(32)	(86)	13
Net gains on sales of marketable securities	(12)	—	—
Net loss on equity investments	104	—	—
Gain on disposal of bonus shares	(246)	—	—
Other expenses, net	—	113	—
(Loss) income before income taxes	(3,639)	204	1,159
Provision for income taxes	8,437	66	449
Net (loss) income	(12,076)	138	710
Net loss attributable to noncontrolling interests	(427)	—	—
Net (loss) income attributable to Rafael Holdings, Inc.	$ (11,649)	$ 138	$ 710
(Loss) earnings per share attributable to Rafael Holdings, Inc. common stockholders:			
Basic	$ (0.93)	$ 0.01	$ 0.06
Diluted	$ (0.93)	$ 0.01	$ 0.06
Weighted average number of shares used in calculation of (loss) earnings per share**:**			
Basic	12,485	12,485	12,485
Diluted	12,485	12,485	12,485

See accompanying notes to consolidated and combined financial statements.

RAFAEL HOLDINGS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(in thousands)

Fiscal Year ended July 31,	2018	2017	2016
Net (loss) income	$ (12,076)	$ 138	$ 710
Other comprehensive (loss) income:			
Unrealized loss on marketable securities	(308)	—	—
Unrealized gain on available-for-sale securities	1,869	2,100	—
Foreign currency translation adjustments	166	27	(7)
Comprehensive (loss) income	(10,349)	2,265	703
Comprehensive loss attributable to noncontrolling interests	(107)	—	—
Comprehensive (loss) income attributable to Rafael Holdings, Inc.	$ (10,456)	$ 2,265	$ 703

See accompanying notes to consolidated and combined financial statements.

RAFAEL HOLDINGS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF STOCKHOLDERS' AND MEMBERS' EQUITY (in thousands)

	Rafael Holdings Stockholders/ Members									
	Class A Common Stock		Class B Common Stock		Group	Additional Paid-In	Accumulated Other Comprehensive	Accumulated	Noncontrolling	Total
	Shares	Amount	Shares	Amount	Equity	Capital	Income	Deficit	Interests	Equity
BALANCE AT JULY 31, 2015	**—**	**$ —**	**—**	**$ —**	**$ 47,914**	**$ —**	**$ 196**	**$ —**	**$ —**	**$ 48,110**
Net income for the year ended July 31, 2016	—	—	—	—	710	—	—	—	—	710
Foreign Currency Translation Adjustment	—	—	—	—	—	—	(7)	—	—	(7)
BALANCE AT JULY 31, 2016	**—**	**$ —**	**—**	**$ —**	**$ 48,624**	**$ —**	**$ 189**	**$ —**	**$ —**	**$ 48,813**
Net income for the year ended July 31, 2017	—	—	—	—	138	—	—	—	—	138
Issuance of member interests in CS Pharma Holdings, LLC (see Note 7)	—	—	—	—	1,850	—	—	—	8,150	10,000
Sale of interest and rights in Rafael Pharmaceuticals, Inc. to Howard S. Jonas (see Note 7)	—	—	—	—	(185)	—	—	—	1,185	1,000
Unrealized Gain on Available-for-Sale Securities	—	—	—	—	—	—	2,100	—	—	2,100
Foreign Currency Translation Adjustment	—	—	—	—	—	—	27	—	—	27
BALANCE AT JULY 31, 2017	**—**	**$ —**	**—**	**$ —**	**$ 50,427**	**$ —**	**$ 2,316**	**$ —**	**$ 9,335**	**$ 62,078**
Net loss for the year ended July 31, 2018	—	—	—	—	(10,541)	—	—	(1,108)	(427)	(12,076)
Stock-based compensation	—	—	—	—	—	51	—	—	—	51
Unrealized Gain on Available-for-Sale Securities	—	—	—	—	—	—	—	—	(40)	(40)
Non-cash compensation related to distribution of bonus shares	—	—	—	—	—	—	1,561	—	—	1,561
Incorporation of Company, Capital contribution from IDT and share distribution on Spin-Off	787,163	8	11,754,835	118	(39,886)	103,485	—	—	—	63,725
Indemnification from IDT for settled lawsuit	—	—	—	—	—	100	—	—	—	100
Foreign Currency Translation Adjustment	—	—	—	—	—	—	166	—	—	166
BALANCE AT JULY 31, 2018	**787,163**	**$ 8**	**11,754,835**	**$ 118**	**$ —**	**$ 103,636**	**$ 4,043**	**$ (1,108)**	**$ 8,868**	**$ 115,565**

See accompanying notes to consolidated and combined financial statements.

RAFAEL HOLDINGS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF CASH FLOWS
(in thousands)

Fiscal Years ended July 31,	2018	2017	2016
OPERATING ACTIVITIES			
Net income (loss)	$ (12,076)	$ 138	$ 710
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	1,698	1,669	1,643
Provision for doubtful accounts	—	—	82
Deferred income taxes	8,859	(295)	368
Realized gain on disposal of bonus shares	(246)	—	—
Realized gain on marketable securities	—	—	—
Loss on disposal of fixed assets	13	—	—
Net gains resulting from foreign exchange transactions	(32)	(86)	13
Non-cash compensation	657	—	—
Interest in the equity of investments	104	113	—
Change in assets and liabilities:			
Accounts and rents receivable	(23)	(7)	(109)
Other current assets and prepaid expenses	(258)	(130)	323
Other assets	(586)	(481)	30
Accounts payable and accrued expenses	(35)	50	9
Other current liabilities	(10)	11	17
Due from related parties	2	(2,626)	(3,041)
Other liabilities	118	21	27
Net cash (used in) provided by operating activities	(1,815)	(1,623)	72
INVESTING ACTIVITIES			
Purchase of property and equipment	(710)	(1,820)	(1,553)
Proceeds from sale and maturity of marketable securities	6,670	—	—
Cash advances to related parties, net of repayments	(1,700)	—	—
Purchase of investments	(151)	(9,400)	(2,100)
Net cash used provided by (used in) investing activities	4,109	(11,220)	(3,653)
FINANCING ACTIVITIES			
Repayment of note payable	—	—	(6,353)
Proceeds from sale of interest and rights in Rafael Pharmaceuticals, Inc. to Howard S. Jonas	—	1,000	—
Proceeds from sale of member interests in CS Pharma Holdings, LLC	—	10,000	
Proceeds from deposit on sale of 10% interest in Rafael Holdings, Inc. to Howard S. Jonas	864		
Cash advances from related parties, net of repayments	886	11,260	6,618
Net cash provided by financing activities	1,750	22,260	265
Effect of exchange rates on cash and cash equivalents	(3)	—	3
Net increase (decrease) in cash and cash equivalents	4,047	9,417	(3,313)
Cash and cash equivalents at beginning of year	11,756	2,339	5,652
Cash and cash equivalents at end of year	$ 15,803	$ 11,756	$ 2,339
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash payments made for taxes	$ —	$ 63	$ 24
Cash payments made for interest	$ —	$ —	$ 31

See accompanying notes to combined financial statements.

Note 1 — Description of Business and Summary of Significant Accounting Policies

Description of Business

Rafael Holdings, Inc. ("Rafael Holdings"), a Delaware corporation, is comprised of all of the accounts of the following wholly-owned subsidiaries: IDT 225 Old NB Road, LLC, a Delaware limited liability company; Rafael Realty LLC, a New Jersey limited liability company; I.D.T. R.E. Holdings, Ltd., an Israeli company; Broad-Atlantic Associates LLC, a Delaware limited liability company; and Rafael Realty Holdings, Inc., a Delaware corporation. Additionally, it includes the accounts of the 50.6% LipoMedix Pharmaceuticals, Ltd., an Israeli Company, the 69.3% owned Hillview Avenue Realty, a Delaware limited liability company and Hillview Avenue Realty JV, a Delaware limited liability company and the 90% owned IDT-Rafael Holdings, LLC, a Delaware limited liability company, in which the Company owns its 50% interest in CS Pharma Holdings, LLC (effectively, a 45% interest).

The "Company" in these financial statements refers to Rafael Holdings on this consolidated and combined basis as if Rafael Holdings existed and owned the above interests in these entities in all periods presented.

All significant intercompany accounts and transactions have been eliminated in consolidation or combination.

Properties

The Company owns commercial real estate located at 520 Broad Street, Newark, New Jersey, which serves as headquarters for IDT Corporation ("IDT"), Genie Energy Ltd. and the Company, and a related 800-car public parking garage across the street, as well as a building located at 225 Old New Brunswick Road in Piscataway, New Jersey that is used partially by IDT Telecom, Inc. for certain of its operations. Additionally, the Company owns a portion of the 6th floor of a building located at 5 Shlomo Halevi Street, Har Hotzvim, in Jerusalem, Israel.

The Company's fiscal year ends on July 31 of each calendar year. Each reference below to a fiscal year refers to the fiscal year ending in the calendar year indicated (e.g., fiscal year 2018 refers to the fiscal year ending July 31, 2018).

The Company's Spin-Off

The Company was formerly a subsidiary of IDT. On March 26, 2018, IDT spun-off the Company to IDT's stockholders and the Company became an independent public company through a pro rata distribution of the Company's common stock held by IDT to IDT's stockholders (the "Spin-Off"). As a result of the Spin-Off, each of IDT's stockholders received: (i) one share of the Company's Class A common stock for every two shares of IDT's Class A common stock held of record on March 13, 2018 (the "Record Date"), and (ii) one share of the Company's Class B common stock for every two shares of IDT's Class B common stock held of record on the Record Date. On March 26, 2018, 787,163 shares of the Company's Class A common stock, and 11,754,835 shares of the Company's Class B common stock were issued and outstanding, which includes 114,945 restricted stock units issued to employees and consultants in connection with the spin.

The Company entered into various agreements with IDT prior to the Spin-Off including a Separation and Distribution Agreement to effect the separation and provide a framework for the Company's relationship with IDT after the Spin-Off, and a Transition Services Agreement, which provides for certain services to be performed by IDT to facilitate the Company's transition into a separate publicly-traded company. These agreements provide for, among other things, (1) the allocation between the Company and IDT of employee benefits, taxes and other liabilities and obligations attributable to periods prior to the Spin-Off, (2) transitional services to be provided by IDT relating to human resources and employee benefits administration, and (3) finance, accounting, tax, investor relations and legal services to be provided by IDT to the Company following the Spin-Off. In addition, the Company entered into a Tax Separation Agreement with IDT, which sets forth the responsibilities of the Company and IDT with respect to, among other things, liabilities for federal, state, local and foreign taxes for periods before and including the Spin-Off, the preparation and filing of tax returns for such periods and disputes with taxing authorities regarding taxes for such periods.

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

Use of Estimates

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

Revenue Recognition

Contractual rental revenue is reported on a straight-line basis over the terms of the respective leases. Accrued rental income, included within Accounts and Rents Receivable and Other Assets on the consolidated and combined balance sheets, represents cumulative rental income earned in excess of rent payments received pursuant to the terms of the individual lease agreements. The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of tenants to make required rent payments or parking customers to pay amounts due.

Recoveries from tenants, consisting of amounts due from tenants for common area maintenance, real estate taxes and other recoverable costs are recognized as revenue in the period during which the expenses are incurred. Tenant reimbursements are recognized and presented in accordance with guidance in ASC 605-45 "Principal Agent Considerations" ("ASC 605-45"). ASC 605-45 requires that these reimbursements be recorded on a gross basis, as: the Company is generally the primary obligor with respect to purchasing goods and services from third-party suppliers; has discretion in selecting the supplier; and has credit risk.

The Company's parking revenues are derived from monthly parking and transient parking. The Company recognizes parking revenue as earned.

Concentration of Credit Risk and Significant Customers

The Company routinely assesses the financial strength of its customers. As a result, the Company believes that its accounts receivable credit risk exposure is limited. For the year ended July 31, 2018, related parties and one customer represented 51%, and 10% of the Company's revenue, respectively, and as of July 31, 2018, five customers represented 28%, 16%, 12%, 12%, and 12% of the Company's accounts receivable balance, respectively. For the year ended July 31, 2017, related parties represented 64% of the Company's revenue, and as of July 31, 2017, three customers represented 27%, 26% and 24% of the Company's accounts receivable balance, respectively. For the year ended July 31, 2016, related parties represented 67% of the Company's revenue, and as of July 31, 2016, four customers represented 19%, 14%, 13% and 11% of the Company's accounts receivable balance, respectively.

Long-Lived Assets

Equipment, buildings, equipment and furniture and fixtures are recorded at cost and are depreciated on a straight-line basis over their estimated useful lives, which range as follows:

Classification	Years
Building and Improvements	40
Tenant Improvements	7
Other (primarily equipment and furniture and fixtures)	5

The Company tests the recoverability of its long-lived assets with finite useful lives whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. The Company tests for recoverability based on the projected undiscounted cash flows to be derived from such asset. If the projected undiscounted future cash flows are less than the carrying value of the asset, the Company will record an impairment loss, if any, based on the difference between the estimated fair value and the carrying value of the asset. The Company generally measures fair value by considering sale prices for similar assets or by discounting estimated future cash flows from such asset using an appropriate discount rate. Cash flow projections and fair value estimates require significant estimates and assumptions by management. Should the estimates and assumptions prove to be incorrect, the Company may be required to record impairments in future periods and such impairments could be material.

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

Cash and Cash Equivalents

The Company considers all liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Marketable Securities

The Company's investments in marketable securities are classified as "available-for-sale." Available-for-sale securities are required to be carried at their fair value, with unrealized gains and losses (net of income taxes) that are considered temporary in nature recorded in "Accumulated other comprehensive loss" in the accompanying consolidated and combined balance sheets. The Company uses the specific identification method in computing the gross realized gains and gross realized losses on the sales of marketable securities. The Company periodically evaluates its investments in marketable securities for impairment due to declines in market value considered to be other than temporary. Such impairment evaluations include, in addition to persistent, declining market prices, general economic and Company-specific evaluations. If the Company determines that a decline in market value is other than temporary, then a charge to operations is recorded in "Other expenses, net" in the accompanying consolidated and combined statements of income and a new cost basis in the investment is established.

Investments

The method of accounting applied to long-term investments, whether consolidated, equity or cost, involves an evaluation of the significant terms of each investment that explicitly grant or suggest evidence of control or influence over the operations of the investee and also includes the identification of any variable interests in which the Company is the primary beneficiary. The consolidated and combined financial statements include the Company's controlled affiliates. In addition, Rafael Pharmaceuticals (see Note 7) is a variable interest entity; however, the Company has determined that it is not the primary beneficiary as the Company does not have the power to direct the activities of Rafael Pharmaceuticals that most significantly impact Rafael Pharmaceuticals' economic performance. All significant intercompany accounts and transactions between the consolidated and combined affiliates are eliminated.

Investments in businesses that the Company does not control, but in which the Company has the ability to exercise significant influence over operating and financial matters, are accounted for using the equity method. Investments in which the Company does not have the ability to exercise significant influence over operating and financial matters are accounted for using the cost method. Equity and cost method investments are included "Investments — Rafael Pharmaceuticals" and "Investments — Other" in the accompanying consolidated and combined balance sheets. The Company periodically evaluates its equity and cost method investments for impairment due to declines considered to be other than temporary. If the Company determines that a decline in fair value is other than temporary, then a charge to earnings is recorded in "Other Expenses, net" in the accompanying consolidated and combined statements of income, and a new basis in the investment is established.

Income Taxes

The accompanying consolidated and combined financial statements include provisions for federal, state and foreign income taxes. Prior to the Spin-Off, the Company joined with its Parent and other affiliates in filing a federal income tax return on a combined basis. Income taxes for the Company for periods prior to the Spin-Off are calculated on a separate tax return basis. Our income taxes for the period subsequent to the Spin-Off will be filed on our initial consolidated standalone return with the IRS.

The Company recognizes deferred tax assets and liabilities for the future tax consequences attributable to temporary differences between the financial statements carrying amounts of existing assets and liabilities and their respective tax bases. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The ultimate realization of deferred tax assets depends on the generation of future taxable income during the period in which related temporary differences become deductible. The Company considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

strategies in its assessment of a valuation allowance. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of such change.

The Company uses a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. The Company determines whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, the Company presumes that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. Tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of tax benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Differences between tax positions taken in a tax return and amounts recognized in the financial statements will generally result in one or more of the following: an increase in a liability for income taxes payable, a reduction of an income tax refund receivable, a reduction in a deferred tax asset, or an increase in a deferred tax liability.

The Company classifies interest and penalties on income taxes as a component of income tax expense.

In November 2015, the FASB issued Accounting Standards Update ("ASU") 2015-17, "*Balance Sheet Classification of Deferred Taxes*." This update requires an entity to classify deferred tax liabilities and assets as noncurrent within a classified statement of financial position. ASU 2015-17 is effective for annual reporting periods, and interim periods therein, beginning after December 15, 2016. This update may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. Early application is permitted as of the beginning of the interim or annual reporting period. The Company adopted ASU 2015-17 as of August 1, 2015. The adoption of ASU 2015-17 did not have a material impact on the Company's consolidated and combined financial statements.

Contingencies

The Company accrues for loss contingencies when both (a) information available prior to issuance of the financial statements indicates that it is probable that a liability had been incurred at the date of the financial statements and (b) the amount of loss can reasonably be estimated. When the Company accrues for loss contingencies and the reasonable estimate of the loss is within a range, the Company records its best estimate within the range. When no amount within the range is a better estimate than any other amount, the Company accrues the minimum amount in the range. The Company discloses an estimated possible loss or a range of loss when it is at least reasonably possible that a loss may have been incurred.

Fair Value Measurements

Fair value of financial and non-financial assets and liabilities is defined as an exit price, which is 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. The three-tier hierarchy for inputs used to measure fair value, which prioritizes the inputs to valuation techniques used to measure fair value, is as follows:

Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 — unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value.

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement requires judgment, and may affect the valuation of the assets and liabilities being measured and their placement within the fair value hierarchy.

Functional Currency

The U.S. Dollar is the functional currency of our entities operating in the United States. The functional currency for our subsidiary operating outside of the United States is the New Israeli Shekel, the currency of the primary economic environment in which the subsidiary primarily expends cash. For consolidated and combined entities whose functional currency is not the U.S. Dollar, the Company translates their financial statements into U.S. dollars. The Company translates assets and liabilities at the exchange rate in effect as of the financial statement date, and translate accounts from the statements of comprehensive income (loss) using the weighted average exchange rate for the period. The Company reports gains and losses from currency exchange rate changes related to intercompany receivables and payables, currently in non-operating expenses.

Allowance for Doubtful Accounts

The allowance for doubtful accounts reflects the Company's best estimate of probable losses inherent in the accounts receivable balance. The allowance is determined based on known troubled accounts, historical experience and other currently available evidence. Doubtful accounts are written-off upon final determination that the trade accounts will not be collected. The computation of this allowance is based on the tenants' or parking customers' payment histories and current credit statuses, as well as certain industry or geographic specific credit considerations. If the Company's estimates of collectability differ from the cash received, then the timing and amount of the Company's reported revenue could be impacted. The credit risk is mitigated by the high quality of the Company's existing tenant base, inclusive of related parties, which represented 51%, 64%, and 67% of the Company's revenue for the years ended July 31, 2018, 2017 and 2016, respectively. The Company recorded bad debt expense of $0, $0, and $82,000 for the years ended July 31, 2018, 2017 and 2016, respectively.

Research and Development Costs

Costs for research and development are charged to expense as incurred. Research and development costs were incurred by LipoMedix.

Repairs and Maintenance

The Company charges the cost of repairs and maintenance, including the cost of replacing minor items not constituting substantial betterment, to selling, general and administrative expenses as these costs are incurred.

Earnings Per Share

Basic earnings per share is computed by dividing net income attributable to all classes of common stockholders of the Company by the weighted average number of shares of all classes of common stock outstanding during the applicable period. Diluted earnings per share is determined in the same manner as basic earnings per share, except that the number of shares is increased to include restricted stock still subject to risk of forfeiture and to assume exercise of potentially dilutive stock options using the treasury stock method, unless the effect of such increase is anti-dilutive.

Stock Based Compensation

The Company recognizes compensation expense for all of its grants of stock-based awards based on the estimated fair value on the grant date. Compensation cost for awards is recognized using the straight-line method over the vesting period. Stock-based compensation is included in selling, general and administrative expense.

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

On August 1, 2017, the Company adopted the ASU intended to improve the accounting for employee share-based payments. The ASU simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences and classification on the statement of cash flows. The adoption of the ASU did not have a significant impact on the Company's consolidated and combined financial statements.

Other

In March 2016, the FASB issued an ASU to improve the accounting for employee share-based payments. The new standard simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The Company adopted the new standard on August 1, 2017. The adoption of the new standard did not have a significant impact on the Company's consolidated and combined financial statements.

Recently Issued Accounting Standards Not Yet Adopted

In May 2014, the Financial Accounting Standards Board ("FASB"), and the International Accounting Standards Board jointly issued a comprehensive new revenue recognition standard that will supersede most of the current revenue recognition guidance under U.S. GAAP and International Financial Reporting Standards ("IFRS"). The goals of the revenue recognition project were to clarify and converge the revenue recognition principles under U.S. GAAP and IFRS and to develop guidance that would streamline and enhance revenue recognition requirements. The Company will adopt this standard on August 1, 2018. Entities have the option of using either a full retrospective or modified retrospective approach for the adoption of the standard. The Company is evaluating the impact that the standard will have on its consolidated financial statements.

In January 2016, the FASB issued an ASU to provide more information about recognition, measurement, presentation and disclosure of financial instruments. The Company adopted the amendments in this ASU on August 1, 2018. The amendments in the ASU include, among other changes, the following: (1) equity investments (except those accounted for under the equity method or that result in consolidation) will be measured at fair value with changes in fair value recognized in net income, (2) a qualitative assessment each reporting period to identify impairment of equity investments without readily determinable fair values, (3) financial assets and financial liabilities will be presented separately by measurement category and form of financial asset on the balance sheet or the notes to the financial statements, and (4) an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets. Entities will no longer be able to recognize unrealized holding gains and losses on equity securities classified as available-for-sale in other comprehensive income. In addition, a practicability exception will be available for equity investments that do not have readily determinable fair values and do not qualify for the net asset value practical expedient. These investments may be measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer. Entities will have to reassess at each reporting period whether an investment qualifies for this practicability exception. The Company is evaluating the impact that the standard will have on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, and has since issued amendments thereto, related to the accounting for leases. The new standard establishes a right-of-use ("ROU") model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The Company will adopt the new standard on August 1, 2019. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. Entities have the option to continue to apply historical accounting under Topic 840, including its disclosure requirements, in comparative periods presented in the year of adoption. An entity that elects this option will recognize a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption

Note 1 — Description of Business and Summary of Significant Accounting Policies (cont.)

instead of the earliest period presented. The Company is evaluating the impact that the new standard will have on its consolidated financial statements.

In June 2016, the FASB issued an ASU that changes the impairment model for most financial assets and certain other instruments. For receivables, loans and other instruments, entities will be required to use a new forward-looking "expected loss" model that generally will result in the earlier recognition of allowance for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses in a manner similar to current practice, except the losses will be recognized as allowances instead of reductions in the amortized cost of the securities. In addition, an entity will have to disclose significantly more information about allowances, credit quality indicators and past due securities. The new provisions will be applied as a cumulative-effect adjustment to retained earnings. The Company will adopt the new standard on August 1, 2020. The Company is evaluating the impact that the new standard will have on its consolidated financial statements.

In August 2017, the FASB issued an ASU intended to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. In addition, the ASU includes certain targeted improvements to simplify the application of hedge accounting guidance in U.S. GAAP. The amendments in this ASU are effective for the Company on August 1, 2019. Early application is permitted. Entities will apply the amendments to cash flow and net investment hedge relationships that exist on the date of adoption using a modified retrospective approach. The presentation and disclosure requirements will be applied prospectively. The Company is evaluating the impact that this ASU will have on its consolidated financial statements.

In June 2018, the FASB issued an ASU to simplify several aspects of the accounting for nonemployee share-based payment transactions by expanding the scope of Topic 718, *Compensation — Stock Compensation*, to include share-based payment transactions for acquiring goods and services from nonemployees. An entity should apply the requirements of Topic 718 to nonemployee awards except for specific guidance on inputs to an option pricing model and the attribution of cost (that is, the period of time over which share-based payment awards vest and the pattern of cost recognition over that period). The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, *Revenue from Contracts with Customers*. The amendments in this ASU are effective for the Company on August 1, 2019. The Company is evaluating the impact that this ASU will have on its consolidated financial statements.

In August 2018, the FASB issued an ASU that modifies the disclosure requirements for fair value measurements. The amendments in this ASU are effective for the Company on August 1, 2020. An entity is permitted to early adopt any removed or modified disclosures and delay adoption of the additional disclosures until their effective date. The Company expects to adopt this ASU for its financial statements beginning in the first quarter of fiscal 2019. The adoption of this ASU will only impact the fair value measurement disclosures in the Company's consolidated financial statements.

Note 2 — Acquisition of LipoMedix Pharmaceuticals Ltd. ("LipoMedix")

LipoMedix is a development-stage, privately held Israeli company focused on the development of an innovative, safe and effective cancer therapy based on liposome delivery.

As a result of an initial $100,000 investment made in November 2016, the Company received approximately 3.2% of the common shares outstanding. During the second quarter of fiscal year 2017, the Company made an additional $300,000 investment in LipoMedix, increasing its ownership to 13.95% of the issued and outstanding ordinary shares, as well as providing LipoMedix with an advance of $200,000. During the fourth quarter of fiscal year 2017, the Company made an additional $1.1 million investment, inclusive of the $200,000 advance, in LipoMedix, increasing its ownership to 38.86% of the issued share capital of the issued and outstanding ordinary shares. As such, the Company began accounting for this investment under the equity method as of and for the fourth

Note 2 — Acquisition of LipoMedix Pharmaceuticals Ltd. ("LipoMedix") (cont.)

quarter of fiscal year 2017. During the fourth quarter of fiscal year 2017, the Company recognized approximately $113,000 as its proportionate share of LipoMedix's loss. As of July 31, 2017, LipoMedix had assets totaling $1.2 million and liabilities totaling $77,000.

On November 16, 2017, the Company exercised its option to purchase additional shares in LipoMedix for $900,000, which increased its ownership to 50.6% of the issued and outstanding ordinary shares. As such, the Company began consolidating this investment as of and for the second quarter of fiscal year 2018.

On July 6, 2018, the Company provided bridge financing of $875,000 to LipoMedix ("Bridge Note"). This financing is convertible into shares of LipoMedix at the earliest of the following: 1) Upon an issuance of an aggregate $2.0 million of additional equity securities (excluding the Bridge Note) ("the Financing"), the Bridge Note amount shall be converted into shares of LipoMedix of the same class and series with the same rights, preferences and privileges as shall be issued in the Financing at a conversion price per share equal to the product of (a) 75% and (b) the lowest price per share paid by the investor(s) in the Financing; 2) Upon a Distribution Event, the Bridge Note shall automatically and without further action be converted into shares of the most senior class of shares of LipoMedix then issued at a conversion price per share that is equal to the product of (a) the distribution received on account of each such share by the holder thereof as a result of the consummation of the Distribution Event and (b) 75%, or the Company shall be entitled to receive a redemption payment equal to the Bridge Note ($875,000); 3) If a Financing or Distribution Event do not occur prior to January 6, 2020 (18 months following the effective date of the agreement), the Bridge note will be converted into the most senior class of shares LipoMedix has then issued at a conversion price per share equal to $0.53 (calculated on the basis of LipoMedix's pre-money valuation of $5.0 million, divided by its fully diluted share capital as of July 6, 2018.

Note 3 — Marketable Securities

The following is a summary of marketable securities:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
		(in thousands)		
Available-for-sale securities:				
July 31, 2018:				
Certificates of deposit*	$ 7,757	$ —	$ (23)	$ 7,734
Federal Government Sponsored Enterprise notes	2,837	—	(23)	2,814
International agency notes	522	—	(17)	505
Mutual funds	5,469	—	(98)	5,371
Corporate bonds	2,948	1	(56)	2,893
U.S. Treasury notes	5,476	—	(92)	5,384
Municipal bonds	—	—	—	—
Total	$ 25,009	$ 1	$ (309)	$ 24,701

* Each of the Company's certificates of deposit has a CUSIP, was purchased in the secondary market through a broker, and may be sold in the secondary market.

Proceeds from maturities and sales of available-for-sale securities were $6.7 million and $0 in fiscal year 2018 and fiscal year 2017, respectively. The gross realized gains that were included in earnings as a result of sales were $12,000 and $0 in fiscal year 2018 and fiscal year 2017, respectively. There were no gross realized losses that were included in earnings as a result of sales in fiscal year 2018 or fiscal year 2017. The Company uses the specific identification method in computing the gross realized gains and gross realized losses on the sales of marketable securities.

Note 3 — Marketable Securities (cont.)

The contractual maturities of the Company's available-for-sale debt securities at July 31, 2018 were as follows:

	Fair Value (in thousands)
Within one year	$ 8,259
After one year through five years	11,282
After five years through ten years	—
After ten years	—
Total	$ 19,541

The following available-for-sale securities were in an unrealized loss position for which other-than-temporary impairments have not been recognized:

	Unrealized Losses (in thousands)	Fair Value
July 31, 2018:		
Certificates of deposit	$ (23)	$ 6,422
Federal Government Sponsored Enterprise notes	(23)	2,814
International agency notes	(17)	505
Corporate bonds	(98)	5,371
Equity	(56)	2,606
U.S. Treasury notes	(92)	5,384
Municipal bonds	—	—
Total	$ (309)	$ 23,102

The Company did not own any marketable securities as of July 31, 2017.

Note 4 — Fair Value Measurements

The following table presents the balance of assets measured at fair value on a recurring basis:

(in thousands)	Level 1[(1)]	Level 2[(2)]	Level 3[(3)]	Total
July 31, 2018				
Available-for-sale securities:				
Marketable Securities	$ 10,755	$ 13,946	$ —	$ 24,701
Hedge Funds	—	—	4,218	4,218
Rafael Pharmaceuticals convertible promissory notes	—	—	7,900	7,900
Total	$ 10,755	$ 13,946	$ 12,118	$ 36,819
July 31, 2017				
Available-for-sale securities:				
Rafael Pharmaceuticals convertible promissory notes	$ —	$ —	$ 6,300	$ 6,300
Total	$ —	$ —	$ 6,300	$ 6,300

(1) – quoted prices in active markets for identical assets or liabilities
(2) – observable inputs other than quoted prices in active markets for identical assets and liabilities
(3) – no observable pricing inputs in the market

At July 31, 2018 and July 31, 2017, the Company did not have any liabilities measured at fair value on a recurring basis.

Note 4 — Fair Value Measurements (cont.)

At July 31, 2018 and July 31, 2017, the fair value of the Rafael Pharmaceuticals convertible promissory notes, which were classified as Level 3, was estimated based on a valuation of Rafael Pharmaceuticals by reference to recent transactions in its securities, the September 2016 Series D Convertible Note investment, as well as utilizing a discounted cash flow technique under the Income Approach and other factors that could not be corroborated by the market.

The following table summarizes the change in the balance of the Company's assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3). There were no liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) in the years ended July 31, 2018, 2017 or 2016.

Year ended July 31, (in thousands)	**2018**	**2017**	**2016**
Balance, beginning of period	$ 6,300	$ 2,000	$ —
Total gains included in other comprehensive income	1,869	2,100	—
Contributions by former Parent at Spin-Off	3,949	—	—
Purchases	—	2,200	2,000
Balance, end of period	$ 12,118	$ 6,300	$ 2,000
Change in unrealized gains or losses for the period included in earnings for assets held at the end of the period	**$ —**	**$ —**	$ —

Prior to the Spin-Off, IDT contributed $3.9 million in hedge funds which were included in "Investments — Hedge Funds" in the accompanying consolidated and combined balance sheets.

Prior to the Spin-Off, IDT contributed $2.0 million in investments in securities in another entity that are not liquid, which were included in "Investments — Other Pharmaceuticals" in the accompanying consolidated and combined balance sheets. The Company's related investment is accounted for using the cost method; therefore this investment is not measured at fair value.

Note 5 — Accounts and Rents Receivable

Accounts and Rents Receivable consisted of the following (in thousands):

July 31,	**2018**	**2017**
Trade Accounts Receivable	$ 358	$ 346
Accounts Receivable – Related Party	11	—
Less Allowance for Doubtful Accounts	(82)	(82)
Accounts and Rents Receivable, net	$ 287	$ 264

Accrued Rental Income included in Prepaid Expenses and Other Current Assets was approximately $88,000 and $10,000 as of July 31, 2018 and 2017, respectively.

Noncurrent Accrued Rental Income included in Other Assets was approximately $1.0 million and $45,000 as of July 31, 2018 and 2017, respectively.

Note 6 — Property and Equipment

Property and equipment consisted of the following (in thousands):

July 31,	2018	2017
Building and Improvements	$ 52,818	$ 51,240
Land	10,412	10,412
Furniture and Fixtures	1,145	1,150
Other	255	1,374
Construction in Progress	1,024	823
Less Accumulated Depreciation	(15,541)	(13,839)
Total	$ 50,113	$ 51,160

Other property and equipment consists of furniture and fixtures, office and other equipment and miscellaneous computer hardware.

Depreciation and amortization expense pertaining to property and equipment was approximately $1.7 million, $1.7 million and $1.6 million for fiscal years 2018, 2017 and 2016, respectively.

Note 7 — Investments — Rafael Pharmaceuticals

Rafael Pharmaceuticals is a clinical stage, oncology-focused pharmaceutical company committed to the development and commercialization of therapies that exploit the metabolic differences between normal cells and cancer cells.

On December 7, 2015, IDT approved an investment of up to $10 million in Rafael Pharmaceuticals. $2 million of this investment was funded as of July 31, 2016, as follows: $500,000 funded upon signing the Subscription and Loan Agreement during the second quarter of fiscal year 2016; and $1.5 million funded during the third quarter of fiscal year 2016. On September 16, 2016, the Company made an additional $8 million investment. This $10 million investment was made in exchange for Rafael Pharmaceuticals' 3.5% convertible promissory notes due on September 16, 2018. The Company and Rafael Pharmaceuticals are in discussions regarding the maturity of the Series D Note. To date, the Company has not accrued interest on this note, as collection cannot be reasonably assured; however, the Company has received an independent appraisal indicating the fair value of its investment in Rafael Pharmaceuticals exceeds the carrying value.

Following the Spin-Off, the Company owns its interests/rights in Rafael Pharmaceutical through a 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC. ("IDT-Rafael Holdings"). IDT-Rafael Holdings holds warrants to purchase a significant stake in Rafael Pharmaceuticals, as well as other equity and governance rights in Rafael Pharmaceuticals, and owns 50% of CS Pharma Holdings, LLC ("CS Pharma"), a non-operating entity which holds the convertible debt and other rights to purchase equity interests in Rafael Pharmaceuticals.

Those interests/rights include:

1. $10,000,000 of Series D Convertible Notes of Rafael Pharmaceuticals held by CS Pharma.
2. A warrant to purchase 56% of the capital stock of Rafael Pharmaceuticals — the right to exercise the first $10,000,000 worth of the warrant is held by CS Pharma; and the remainder is held directly by IDT-Rafael Holdings.
3. Certain governance rights, including appointment of directors.
4. The contractual right to receive "Bonus Shares" for an additional 10% of the outstanding capital stock of Rafael Pharmaceuticals that was previously held by IDT-Rafael Holdings, which is contingent upon achieving certain milestones. If the milestones are met, Bonus Shares are to be issued without any additional payment and Howard Jonas has the right to designate the Bonus Shares to others, including those who are instrumental to the future success of Rafael Pharmaceuticals.

Note 7 — Investments — Rafael Pharmaceuticals (cont.)

On March 2, 2017, Howard Jonas, IDT's Chairman of the Board, and Chairman of the Board of Rafael Pharmaceuticals, purchased 10% of IDT-Rafael Holdings, LLC, in which the Company's direct and indirect interest and rights in Rafael Pharmaceuticals were held, for a purchase price of $1 million, which represented 10% of the Company's cost basis in IDT-Rafael Holdings. The Company holds its interest in CS Pharma through its 90%-owned non-operating subsidiary, IDT-Rafael Holdings, LLC, which holds a 50% interest in CS Pharma. Accordingly, the Company holds an effective 45% indirect interest in the assets held by CS Pharma, including its cash. Separately, Howard Jonas and Deborah Jonas jointly own $525,000 of Series C Convertible Notes of Rafael Pharmaceuticals, and The Howard S. and Deborah Jonas Foundation owns $525,000 of Series C Notes of Rafael Pharmaceuticals.

David Polinsky, our Chief Financial Officer, and certain family members and entities own $480,000 of Series C Convertible Notes of Rafael Pharmaceuticals, 4,045,041common shares of Rafael Pharmaceuticals, as well as hold a loan receivable from Rafael Pharmaceuticals of $1,225,650. David Polinsky is also owed deferred salary of $203,592, which remains outstanding from his previous period of employment at Rafael Pharmaceuticals.

Additionally, officers of the Company hold the following options to purchase shares of Rafael Pharmaceuticals:

	Grant Date	Options	Vesting Period	Price
David Polinsky	7/1/09	60,000	1 Year	$ 1.00
Howard Jonas	4/1/13	100,000	4 Years	1.25
David Polinsky	10/16/13	75,000	4 Years	1.25
Menachem Ash	8/1/17	500,000	3 Years	1.25

On September 12, 2017, the Company's Compensation Committee, Corporate Governance Committee and Board of Directors approved a compensatory arrangement with Howard S. Jonas related to this right to receive additional Rafael shares. In connection with this arrangement, IDT-Rafael Holdings distributed this right to its members such that the Company received the right to 9% of the outstanding capital stock of Rafael and Mr. Jonas received the right to 1% of the outstanding capital stock of Rafael. In addition, as compensation for assuming the role of Chairman of the Board of Rafael, and to create additional incentive to contribute to the success of Rafael, on September 19, 2017, the Company assigned its right to receive 9% of the outstanding capital stock of Rafael to Mr. Jonas. The right is further transferable by Mr. Jonas, in his discretion.

The Rafael Pharmaceuticals Series D Note earns interest at 3.5% per annum, with principal and accrued interest due and payable on September 16, 2018. The Company and Rafael Pharmaceuticals are in discussions regarding the maturity of the Series D Note. The Series D Note is convertible at the holder's option into shares of Rafael Pharmaceuticals' Series D Preferred Stock. The Series D Note also includes a mandatory conversion into Rafael Pharmaceuticals common stock upon a qualified initial public offering, and conversion at the holder's option upon an unqualified financing event. In all cases, the Series D Note conversion price is based on the applicable financing purchase price. IDT-Rafael Holdings and CS Pharma were issued warrants to purchase shares of capital stock of Rafael Pharmaceuticals representing up to 56% of the then issued and outstanding capital stock of Rafael Pharmaceuticals, on an as-converted and fully diluted basis. The right to exercise warrants as to the first $10 million thereof is held by CS Pharma and the remainder is owned by IDT-Rafael Holdings. The warrant expires on December 31, 2020. Currently, if the Company desires to raise additional financing from unaffiliated parties in connection with the exercise of its warrant or other current rights to invest in Rafael Pharmaceuticals (but not including the Rafael Pharmaceuticals rights held by CS Pharma), it first must give the other CS Pharma holders the opportunity to provide such financing on a pro rata basis. The exercise price of the warrant is the lower of 70% of the price sold in an equity financing, or $1.25 per share, subject to certain adjustments. The minimum initial and subsequent exercises of the warrant shall be for such number of shares that will result in at least $5 million of gross proceeds to Rafael Pharmaceuticals, or such lesser amount as represents 5% of the outstanding capital stock of Rafael Pharmaceuticals, or such lesser amount as may then remain unexercised. The warrant will expire upon the earlier of December 31, 2020 or a qualified initial public offering or liquidation event of Rafael Pharmaceuticals.

Note 7 — Investments — Rafael Pharmaceuticals (cont.)

On September 5, 2018, CS Pharma exercised the first $10 million of warrants to purchase 8.0 million shares of Series D Convertible Preferred Stock of Rafael Pharmaceuticals, representing approximately 13.5% of the outstanding equity of Rafael Pharmaceuticals. Subsequent to this warrant exercise, based on the current shares issued and outstanding of Rafael Pharmaceuticals, the Company, and its affiliates that hold interests in Rafael Pharmaceuticals, would need to pay in the aggregate approximately $61 million to exercise the Warrant in full and approximately $46 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. On an as-converted fully diluted basis (for all convertible securities of Rafael Pharmaceuticals outstanding), the Company and its affiliates that hold interests in Rafael Pharmaceuticals would need approximately $112 million to exercise the Warrant in full and approximately $88 million to purchase a 51% controlling stake in Rafael Pharmaceuticals. Following that exercise, a portion of our interest in Rafael Pharmaceuticals would continue to be held for the benefit of the other equity holders in IDT-Rafael Holdings and CS Pharma.

The Company serves as the managing member of IDT-Rafael Holdings and IDT-Rafael Holdings serves as the managing member of CS Pharma, with broad authority to make all key decisions regarding their respective holdings. Any distributions that are made to CS Pharma from Rafael Pharmaceuticals that are in turn distributed by CS Pharma will need to be made pro rata to all members, which would entitle IDT-Rafael Holdings to 50% (based on current ownership) of such distributions. Similarly, if IDT-Rafael Holdings were to distribute proceeds it receives from CS Pharma, it would do so on a pro rata basis, entitled the Company to 90% (based on current ownership) of such distributions.

The Company's investment in Rafael Pharmaceuticals, which was included in "Investments — Rafael Pharmaceuticals" in the accompanying consolidated and combined balance sheets, consists of the following:

July 31 (in thousands)	2018	2017
Convertible promissory note (at fair value)	$ 7,900	$ 6,300
Warrants (at cost)	5,400	5,400
Right to receive additional shares (at cost)	—	400
Total investment in Rafael Pharmaceuticals	$ 13,300	$ 12,100

Rafael Pharmaceuticals is a variable interest entity; however, the Company has determined that it is not the primary beneficiary as is does not have the power to direct the activities of Rafael Pharmaceuticals that most significantly impact Rafael Pharmaceuticals' economic performance (see Note 1).

As of March 26, 2018, IDT had provided Rafael Pharmaceuticals with $1.6 million in working capital financing that remains outstanding. The related receivable from Rafael Pharmaceutical was transferred by IDT to the Company prior to the Spin-Off. Subsequent to the Spin-Off through July 31, 2018, the Company provided Rafael Pharmaceuticals with $1.7 million in working capital financing, resulting in a total balance of $3.3 million that remains outstanding relating to working capital financing. The working capital financing provided to Rafael Pharmaceuticals was included in "Due from Rafael Pharmaceuticals" in the accompanying consolidated and combined balance sheets. In addition, the Company performs certain administrative services for Rafael Pharmaceuticals, for which the Company charges a monthly fee of approximately $40,000. As of July 31, 2018, a balance of approximately $162,000 remains outstanding for services performed between the Spin-Off date and July 31, 2018. The balance outstanding related to administrative services performed for Rafael Pharmaceuticals was included in "Due To (Due From) Related Parties" in the accompanying consolidated and combined balance sheets.

Note 8 — Income Taxes

Prior to the Spin-Off, the Company was a member of a combined group of entities for which income tax returns were filed for the combined group. For this period, income taxes for the Company were calculated on a separate tax return basis. The current U.S. federal and state income tax expense was recorded as an increase in the payable amount Due to Related Parties. Our income taxes for the period subsequent to the Spin-Off will be filed on our initial consolidated standalone return with the IRS. There is no current U.S. federal and state income tax expense for this period.

Note 8 — Income Taxes (cont.)

The Company provides for deferred taxes based on the difference between the basis of assets and liabilities for financial reporting purposes and the basis for income tax purposes, calculated using enacted rates that will be in effect when the differences are expected to reverse.

The components of (loss) income before income taxes are as follows (in thousands):

Year Ended July 31,	2018	2017	2016
Domestic	$ (2,581)	$ 97	$ 1,100
Foreign	(1,058)	107	59
(Loss) Income Before Income Taxes	$ (3,639)	$ 204	$ 1,159

Provision for income taxes as presented in the Statement of Comprehensive (Loss) Income consisted of the following (in thousands):

Year Ended July 31,	2018	2017	2016
Current:			
Foreign	$ 11	$ —	$ —
Federal	—	(229)	23
State	—	—	—
Total current expense	11	(229)	23
Deferred:			
Foreign	—	(6)	17
Federal	8,219	283	409
State	207	18	—
Total deferred expense	8,426	295	426
Income tax expense	$ 8,437	$ 66	$ 449

The differences between income taxes expected at the U.S. federal statutory income tax rate and income taxes are reported as follows (in thousands):

Year Ended July 31,	2018	2017	2016
U.S. federal income tax at statutory rate	$ (886)	$ 70	$ 394
State income tax	(141)	6	52
Valuation allowance	7,105	—	—
Foreign tax rate differential	(290)	(11)	(5)
Tax law change	2,499	—	—
Permanent differences	144	1	6
Other	6	—	2
Income tax expense	$ 8,437	$ 66	$ 449

The Company has not recorded U.S. income tax expense for foreign earnings, as such earnings are permanently reinvested outside the United States. The cumulative undistributed foreign earnings are included in accumulated deficit in the Company's consolidated and combined balance sheets and consisted of approximately $2.2 million at July 31, 2018. Upon distribution of these foreign earnings to the Company's domestic entities, the Company may be subject to U.S. income taxes and withholding of foreign taxes; however, it is not practicable to determine the amount, if any, which would be paid.

Note 8 — Income Taxes (cont.)

Significant components of the Company's deferred tax assets and deferred tax liabilities are as follows (in thousands):

July 31,	2018	2017	2016
Deferred tax assets:			
Net operating loss carryforwards	$ 5,753	$ 7,217	$ 6,937
AMT carryforwards	—	24	24
Reserves and accruals	2,344	1,618	1,603
Stock-based compensation	14	—	—
Gross deferred tax assets	8,112	8,859	8,564
Less valuation allowance	(8,112)	—	—
Total deferred tax assets	—	8,859	8,564
Total deferred tax liabilities	—	—	—
Deferred tax, net	$ —	$ 8,859	$ 8,564

Net deferred tax assets are included in "Deferred Taxes" in the consolidated and combined balance sheets.

At July 31, 2018 and 2017, the Company has available federal and state net operating loss ("NOL") carryforwards from domestic operations of approximately $20.0 million and $18.0 million, respectively, to offset future taxable income. The federal and state NOL carryforwards will begin to expire in 2026. The Company has no available NOLs from foreign operations. The AMT carryforwards do not expire.

The Company has adopted the accounting policy that interest and penalties will be classified as a component of the provision for income taxes. As of the date of adoption of ASC 740 and through July 31, 2018, the Company did not have any interest or penalties associated with unrecognized tax benefits. The Company does not anticipate any significant changes to the unrecognized tax benefits within twelve months of this reporting date.

Prior to the Spin-Off, the Company was a member of IDT's combined group; therefore its income or loss was included in IDT's tax return. IDT currently remains subject to examinations of its combined U.S. federal tax returns for fiscal years 2014 through 2017, and state and local tax returns generally for fiscal years 2013 through 2017. In connection with the Spin-Off, the Company entered into a tax separation agreement with IDT, which sets forth responsibilities with respect to, among other things, liabilities for federal, state, local and foreign taxes for periods before and including the Spin-Off, the preparation and filing of tax returns for such periods and disputes with taxing authorities regarding taxes for such periods. IDT will be generally responsible for our federal, state, local and foreign income taxes for periods before and including the Spin-Off. The Company will be generally responsible for all other taxes relating to its business. The Company and IDT will each generally be responsible for managing those disputes that relate to the taxes for which each is responsible and, under certain circumstances, may jointly control any dispute relating to taxes for which both are responsible. The Company remains subject to examinations of its Israeli tax returns for fiscal years 2013 through 2016.

Note 9 — Commitments and Contingencies

Legal Proceedings

On August 21, 2018, the Company entered into a settlement agreement with a building service provider in order to avoid the risks, delays and expenses inherent in and resulting from litigation. The $100,000 settlement was included in "Selling, general and administrative" expenses in the accompanying consolidated and combined income statement and in "Accrued Expenses" in the accompanying consolidated and combined balance sheets. As the Company is fully indemnified by IDT for the settlement amount, a corresponding receivable was included in "Due to Related Parties" in the accompanying consolidated and combined balance sheets.

Note 9 — Commitments and Contingencies (cont.)

Under a Founders Agreement among Lipomedix and other parties, two of Lipomedix' founders would become entitled to consulting payments in the approximate amounts of $385,000 and $358,000, respectively, upon the satisfaction of certain conditions thereto. Lipomedix believes that those conditions have not been satisfied and does not believe that they are likely to be satisfied until Lipomedix is successful in raising significant equity capital in the future.

On September 17, 2018, LipoMedix was notified of a claim initiated by one of its founders seeking payment of consulting fees in the amount of approximately $377,000 and seeking to place restrictions on LipoMedix' bank accounts and other assets to protect his claim. LipoMedix does not believe that the individual has the right to receive any payment at the current time. LipoMedix responded to the demand for the placement of restrictions on its assets and intends to vigorously defend this matter.

The Company may from time to time be subject to legal proceedings that may arise in the ordinary course of business. Although there can be no assurance in this regard, other than noted above, the Company does not expect any of those legal proceedings to have a material adverse effect on the Company's results of operations, cash flows or financial condition.

Note 10 — Related Party Transactions

The Company has historically maintained an intercompany balance Due to Related Parties that relates to cash advances for investments, loan repayments, charges for services provided to the Company by IDT and payroll costs for the Company's personnel that were paid by IDT, partially offset by rental income paid by various companies under common control to IDT to the Company. IDT advanced $9.4 million to the Company during fiscal year 2017 to invest in Rafael Pharmaceuticals and LipoMedix. Prior to the Spin-Off, IDT charged the Company for certain transactions and allocated routine expenses for, among other things: (1) the allocation between the Company and IDT of employee benefits, taxes and other liabilities and obligations; (2) services to be provided by IDT relating to human resources and employee benefits administration; (3) the allocation of responsibilities relating to employee compensation and benefit plans and programs and other related matters; and (4) finance, accounting, tax and legal services to be provided by IDT to the Company. In fiscal year 2017, IDT allocated to the Company an aggregate of approximately $993,000, respectively, for payroll, benefits, insurance and other expenses, which were included in "Selling, general and administrative expense" in the consolidated and combined statements of comprehensive (loss) income.

The change in the Company's liability to related parties was as follows:

Years ended July 31, (in thousands)	**2018**	**2017**
Balance at beginning of year	$ 23,693	$ 15,145
Payments by IDT on behalf of the Company	385	993
Rental revenue billed to Related Parties	(1,982)	(3,705)
Cash repayments, net of advances	1,375	11,260
Due to Related Parties balance capitalized at Spin-Off	(24,116)	—
Billings from Transition Services Agreement with IDT	(426)	—
Billings for services performed for Rafael Pharmaceuticals	(162)	—
Deposit from Howard Jonas for proposed purchase of Rafael Holdings Shares	864	—
Balance at end of year	$ 276	$ 23,693

Note 11 — Future Minimum Rents

The properties are leased to tenants under net operating leases with initial term expiration dates ranging from 2021 to 2028. The future contractual minimum lease payments to be received (excluding operating expense reimbursements) by the Company as of July 31, 2018, under non-cancelable operating leases which expire on various dates through 2028, are as follows:

Year ending July 31:	Related Parties	Other	Total
(in thousands)			
2019	$ 1,968	$ 1,012	$ 2,980
2020	2,004	1,142	3,146
2021	2,041	1,003	3,044
2022	2,079	907	2,985
2023	2,117	642	2,759
Thereafter	3,796	2,904	6,699
Total Minimum Future Rental Income	$ 14,004	$ 7,609	$ 21,614

Related parties represented approximately 51%, 64%, and 67% of the Company's total revenue for the years ended July 31, 2018, 2017 and 2016, respectively. The Company amended all of its related party leases as of August 1, 2017. The related party leases expire in April 2025 and are for 88,631 square feet and include two parking spots per thousand square feet of space leased at 520 Broad Street and for 3,595 square feet in Israel. The annual rent will be approximately $2.0 million. The related parties have the right to terminate the domestic leases upon four months' notice, and upon early termination will pay a termination penalty equal to 25% of the portion of the rent due over the course of the remaining term. The related parties have the right to terminate the Israeli leases upon two months' notice. Related parties will have the right to lease an additional 25,000 square feet in the building located at 520 Broad Street on the same terms as the base lease, and other rights to a further 25,000 square feet should all available space be leased to other tenants. Upon expiration of the lease, these related parties have the right to renew the leases for another five years.

Note 12 — Business Segment Information

The Company conducts business as two operating segments, Pharmaceuticals and Real Estate. The Company's reportable segments are distinguished by types of service, customers and methods used to provide their services. The operating results of these business segments are regularly reviewed by the Company's chief operating decision maker. Beginning in the second quarter of fiscal 2018, the Pharmaceuticals segment is comprised of debt interests and warrants in Rafael Pharmaceuticals and a majority equity interest in LipoMedix Pharmaceuticals. Comparative results have been reclassified and restated as if the Pharmaceuticals segment existed for all periods presented. To date, the Pharmaceuticals segment has not generated any revenues.

The Real Estate segment includes the Company's real estate holdings, including the building at 520 Broad Street in Newark, New Jersey that houses IDT's headquarters and its associated public garage, an office/data center building in Piscataway, New Jersey and a portion of a building in Israel that hosts offices for IDT and certain affiliates.

The accounting policies of the segments are the same as the accounting policies of the Company as a whole. The Company evaluates the performance of its Real Estate segment based primarily on income (loss) from operations and its Pharmaceuticals segment based primarily on research and development efforts and results of clinical trials. All investments in Rafael Pharmaceuticals and assets, expenses and expenses associated with LipoMedix are tracked separately in the Pharmaceuticals segment. All corporate costs are allocated to the Real Estate segment.

Note 12 — Business Segment Information (cont.)

Operating results for the business segments of the Company are as follows:

(in thousands)	Pharmaceuticals	Real Estate	Total
Year Ended July 31, 2018			
Revenues	$ —	$ 4,371	$ 4, 371
Loss from operations	(1,061)	(2,780)	(3,841)
Year Ended July 31, 2017			
Revenues	$ —	$ 5,618	$ 5,618
Income from operations	—	1,192	1,192

Geographic Information

Revenue from customers located outside of the United States was generated entirely from related parties located in Israel. Revenue from these non-United States customers as a percentage of total revenues was as follows (revenues by country are determined based on the location of the related facility):

Year ended July 31,	2018	2017	2016
Revenue from tenants located in Israel	6%	5%	5%

Net long-lived assets and total assets of the Company were located as follows:

(in thousands)	United States	Israel	Total
July 31, 2018			
Long-lived Assets, net	$ 69,935	$ 2,473	$ 72,408
Total Assets	113,279	3,641	116,920
July 31, 2017			
Long-lived Assets, net	$ 71,674	$ 2,363	$ 74,037
Total Assets	83,675	2,529	86,204

Note 13 — Equity

Class A Common Stock and Class B Common Stock

The rights of holders of Class A common stock and Class B common stock are identical except for certain voting and conversion rights and restrictions on transferability. The holders of Class A common stock and Class B common stock receive identical dividends per share when and if declared by the Company's Board of Directors. In addition, the holders of Class A common stock and Class B common stock have identical and equal priority rights per share in liquidation. The Class A common stock and Class B common stock do not have any other contractual participation rights. The holders of Class A common stock are entitled to three votes per share and the holders of Class B common stock are entitled to one-tenth of a vote per share. Each share of Class A common stock may be converted into one share of Class B common stock, at any time, at the option of the holder. Shares of Class A common stock are subject to certain limitations on transferability that do not apply to shares of Class B common stock.

Approval of Sale of Shares of Class B Common Stock to Howard S. Jonas

On April 26, 2018, the Board of Directors of Rafael Holdings, Inc. (the "Company") and its Corporate Governance Committee approved an arrangement with Howard S. Jonas, the Chairman of the Board, Chief Executive Officer and controlling stockholder of the Company, related to the purchase of shares of Class B common stock of the Company by Mr. Jonas. Under the arrangement, subject to approval of the stockholders of the Company, Mr. Jonas has agreed to purchase 1,254,200 shares of Class B common stock (representing ten percent

Note 13 — Equity (cont.)

of the issued and outstanding equity of the Company) at a price per share of $6.89, which was the closing price for the Class B common stock on the New York Stock Exchange on April 26, 2018 (the last closing price before approval of the arrangement) for an aggregate purchase price of $8,641,438. The investment is intended to provide the Company with working capital and to support growth initiatives, including additional investments in the real estate and pharmaceutical industries and in companies in which the Company owns interests. The arrangement is subject to approval of the stockholders of the Company, and no shares will be issued unless such approval is obtained. Mr. Jonas has agreed to vote in favor of the arrangement when it is submitted to the stockholders. The Company has agreed to present the matter to its stockholders at the next meeting of stockholders to be held. Mr. Jonas paid $864,144 of the purchase price on May 31, 2018, which was included in "Due to Related Parties" in the accompanying consolidated and combined balance sheets. The remainder of the purchase price will be payable following approval of the stockholders of the Company, and the shares will be issued upon payment of in full.

Note 14 — Stock-Based Compensation

Stock Options

In the Spin-Off, the exercise price of each outstanding option to purchase IDT Class B common stock that was issued by IDT was proportionately reduced based on the relative trading prices of IDT and the Company following the Spin-Off. Further, each holder of an option to purchase IDT Class B common stock received a ratable share in a pool of options to purchase shares of the Company's Class B common stock (which was based on 1 for 2 distribution ratio of the Spin-Off). The exercise price of the Company's options is $4.90 per share, which is equal to the closing price of the Company's Class B common stock on the first trading day following the consummation of the Spin-Off. The expiration date of the Company's options is equal to the later of (i) the expiration of the IDT option held by such option holder and (ii) a date on or about the first anniversary of the Spin-Off when the Company's insiders will be free to trade in shares of the Company under the Company's insider trading policy. The options to purchase shares of the Company were issued under the Company's Plan.

Option awards are generally granted with an exercise price equal to the market price of the Company's stock on the date of grant. Option awards generally vest on a graded basis over five years of service and have ten-year contractual terms. The fair value of stock options was estimated on the date of the grant using a Black-Scholes valuation model and the assumptions in the following table. No option awards were granted in fiscal 2018. Expected volatility is based on historical volatility of the Company's Class B common stock and other factors. The Company uses historical data on exercise of stock options, post vesting forfeitures and other factors to estimate the expected term of the stock-based payments granted. The risk free rate is based on the U.S. Treasury yield curve in effect at the time of grant.

A summary of stock option activity for the Company is as follows:

	Number of Options (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at July 31, 2017	—	$ —		
Issued in conjunction with the Spin-Off	626,662	4.90		
Granted		—		
Exercised	—	—		
Cancelled / Forfeited	82	4.90		
OUTSTANDING AT JULY 31, 2018	**626,580**	**$ 4.90**	4.72	**$ 3,070,242**
EXERCISABLE AT JULY 31, 2018	**597,182**	**$ 4.90**	4.72	**$ 2,926,192**

Note 14 — Stock-Based Compensation (cont.)

No options were exercised during fiscal 2018, fiscal 2017 or and fiscal 2016. At July 31, 2018, there was no unrecognized compensation cost related to non-vested stock options.

Restricted Stock

The fair value of restricted shares of the Company's Class B common stock is determined based on the closing price of the Company's Class B common stock on the grant date. Share awards generally vest on a graded basis over three years of service.

As part of the Spin-Off, holders of restricted Class B common stock of IDT received, in respect of those restricted shares, one share of the Company's Class B common stock for every two restricted shares of IDT that they held as of the record date for the Spin-Off. The Company issued an aggregate of 92,690 restricted shares of its Class B common stock to the holders of restricted Class B common stock of IDT. Such shares of the Company's Class B common stock are restricted under the same terms as the IDT restricted stock in respect of which they were issued. The restricted shares of the Company's Class B common stock received in the Spin-Off are subject to forfeiture on the same terms, and their restrictions will lapse at the same time, as the corresponding IDT shares.

On March 28, 2018, the Company granted employees and consultants 76,445 and 42,500, respectively, restricted shares of Class B Common Stock, which will vest as to one-third of the granted shares on each of March 28, 2019, 2020 and 2021, unless otherwise determined by the Compensation Committee of the Company's Board of Directors. The aggregate fair value of the grant was approximately $0.5 million, which will be charged to expense on a straight line basis as the shares vest.

A summary of the status of the Company's grants of restricted shares of Class B common stock is presented below:

(in thousands)	Number of Non-vested Shares	Weighted-Average Grant- Date Fair Value
Non-vested shares at July 31, 2017	—	$ —
Issued in conjunction with the Spin-Off	210,135	4.90
Granted	4,000	9.93
Vested	(70,273)	4.90
Forfeited	(2,063)	4.90
NON-VESTED SHARES AT JULY 31, 2018	**141,799**	**$ 4.90**

At July 31, 2018, there was $674,000 of total unrecognized compensation cost related to non-vested stock-based compensation arrangements, which is expected to be recognized over a weighted-average period of three years. The total grant date fair value of shares vested in fiscal 2018, fiscal 2017 and fiscal 2016 was $344,000, $0 and $0, respectively.

Note 15 — Selected Quarterly Financial Data (Unaudited)

The table below presents selected quarterly financial data of the Company for its fiscal quarters in fiscal 2018 and fiscal 2017:

Quarter Ended (in thousands, except per share data)	Revenues	Income (loss) from operations	Net income (loss)	Net income (loss) attributable to Rafael Holdings	Net income (loss) per share – basic	Net income (loss) per share – diluted
2018:						
October 31	$ 1,107	$ (1,053)	$ (9,329)	$ (9,329)	$ (0.75)	$ (0.75)
January 31	956	(816)	(722)	(898)	(0.07)	(0.07)
April 30	1,093	(731)	(659)	(787)	(0.06)	(0.06)
July 31	1,215	(1,241)	(1,366)	(635)	(0.05)	(0.05)
TOTAL	**$ 4,371**	**$ (3,841)**	**$ (12,076)**	**$ (11,649)**	**$ (0.93)**	**$ (0.93)**
2017:						
October 31	$ 1,399	$ 158	$ 128	$ 128	$ 0.01	$ 0.01
January 31	1,337	127	166	166	0.01	0.01
April 30	1,282	(164)	(65)	(65)	(0.01)	(0.01)
July 31	1,600	100	(91)	(91)	(0.01)	(0.01)
TOTAL	**$ 5,618**	**$ 221**	**$ 138**	**$ 138**	**$ (0.01)**	**$ (0.01)**