

# ColiPlant Holdings

Enters into licensing and commercialisation agreement

Development update

In late October 2018, ColiPlant and United Therapeutics (NASDAQ: UTHR) announced a licensing, development and commercialisation agreement for 3D bioprinted lung transplants using rhCollagen-based BioInk. This news follows the United Therapeutics' Science Day in September, where its founder and CEO presented the company's R&D using ColiPlant's rhCollagen to 3D bioprint lung scaffolds. This co-development agreement further validates ColiPlant's technology.

Year end	Revenue (NISm)	PBT* (NISm)	EPS* (NIS)	DPS (NIS)	P/E (x)	Yield (%)
12/16	0.3	(27.9)	(27.72)	0.0	N/A	N/A
12/17	1.7	(20.9)	(15.68)	0.0	N/A	N/A
12/18e	21.1	(12.7)	(6.10)	0.0	N/A	N/A
12/19e	7.3	(20.1)	(8.57)	0.0	N/A	N/A

Note: \*PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

## rhCollagen-based BioInk co-development agreement

On 22 October 2018, ColiPlant announced a licensing, development and commercialisation agreement with United Therapeutics for 3D bioprinted lung transplants using ColiPlant's proprietary rhCollagen-based BioInk. The agreement entitles ColiPlant to a \$5m upfront payment and up to \$15m in additional milestone payments for the development of 3D bioprinting lung scaffolds for human transplants. The agreement also enables United Therapeutics to expand its licence to utilise BioInk for the development of three additional organs, which in turn may generate more financial upside for ColiPlant, with an additional \$9m upfront payment and up to another \$15m in milestones. Furthermore, ColiPlant is entitled to royalties on sales.

## United Therapeutics Science Day foreshadowing

In late September, United Therapeutics described its process of 3D bioprinting lung scaffolds using ColiPlant's rhCollagen-based BioInk at its Science Day held in New York City. As a reminder, ColiPlant previously announced that it had received multiple orders of BioInk from a biotechnology company intended for research into the development of bioprinted organs and that it was in discussions regarding a possible co-development agreement.

## Validating ColiPlant's technology

ColiPlant's rhCollagen produces a highly organised collagen matrix with tuneable properties and a well-controlled number of cell-binding sites, unlike collagen reclaimed from animal sources. This co-development agreement between ColiPlant and United Therapeutics provides further validation of ColiPlant's technology.

## Valuation: \$84.1m or \$22.08 per ADS (NIS1.58/share)

We have slightly increased our valuation of ColiPlant to \$84.1m or \$22.08 per ADS from \$79.9m or \$20.96 per ADS, driven by the increase in cash attributed to the \$5m upfront payment from United Therapeutics associated with its collaboration.

Pharma & biotech

28 October 2018

**Price\*** **NIS0.47**

**Market cap** **NIS90m**

\*Priced at 24 October 2018

NIS3.57/US\$

Net cash (\$m) at June 2018, plus private placement 3.9

Shares in issue/ADS in issue 190.53m/3.81m

Free float 84%

Code CLGN

Primary exchange NASDAQ

Secondary exchange TASE

### Share price performance



% 1m 3m 12m

Abs 23.4 13.8 (11.5)

Rel (local) 29.3 10.5 (19.1)

52-week high/low NIS0.6 NIS0.4

### Business description

ColiPlant is an Israel-based regenerative medicine company. It is focused on 3D bioprinting of tissues and organs, as well as developing and commercialising tissue repair products with its plant-based technology, rhCollagen. It also has two products on the market, VerigenixSTR and VerigenixFG.

### Next events

Last trading day on the TASE 29 October 2018

Continued sales ramp-up 2018

### Analysts

Maxim Jacobs +1 646 653 7027

Nathaniel Calloway +1 646 653 7036

Briana Warschun +1 646 653 7031

[healthcare@edisongroup.com](mailto:healthcare@edisongroup.com)

[Edison profile page](#)

## **Biolnk used to 3D bioprint lung scaffolds**

---

On 22 October 2018, CollPlant and United Therapeutics, a NASDAQ-listed biotechnology company with a market capitalisation of ~\$5.3bn, announced a global licensing, development and commercialisation agreement for 3D bioprinting lung scaffolds for human transplants. Foreshadowing this event in September, United Therapeutics held a Science Day in New York City to provide an in-depth update on its research and development pipeline in late September 2018. Its founder and CEO, Martine Rothblatt, PhD, presented on organ manufacturing via 3D printing. Dr Rothblatt described how they used a customised design of collagen "...derived from a genetically modified tobacco plant..." to "3D print more and more parts of the lung scaffolds". Importantly, Dr Rothblatt also added that the other "types of collagen that are out there are infeasible to use in a 3D printing process".

According to the agreement, CollPlant granted United Therapeutics, via its Lung Biotechnology PBC (ie a wholly owned subsidiary focused on organ manufacturing and transplantation), an exclusive licence to its proprietary rhCollagen-based Biolnk technology for the development of 3D bioprinted lung transplants. CollPlant will continue to manufacture and supply Biolnk for a number of years in order to meet development demands and will provide technical support as United Therapeutics establishes a US facility for rhCollagen and Biolnk manufacturing. Moreover, the agreement includes an option for United Therapeutics to expand its licence and add up to three additional organs.

CollPlant will receive an upfront payment of \$5m and up to \$15m in milestone payments, based on operational and regulatory achievements related to lung scaffold development and manufacturing. The agreement also permits an option to exercise payments of up to \$9m and additional milestone payments of up to \$15m if United Therapeutics chooses to manufacture other organs using CollPlant's technology. Furthermore, CollPlant is entitled to royalties on sales of commercialised products covered by its licensed patents, in addition to reimbursement for specific costs. More important than the cash, however, is the validation from an industry leader, which will automatically give CollPlant additional credence when negotiating other deals.

## **Valuation**

---

We have slightly increased our valuation of CollPlant to \$84.1m or \$22.08 per ADS from \$79.9m or \$20.96 per ADS. This increase is driven by the increase in cash attributed to the \$5m upfront payment from United Therapeutics, which we expect in Q418. We do not include recurring revenue from the Biolnk product in our model, although we may add this at a later date if the company receives additional milestone payments from United Therapeutics, or if Biolnk is integrated into a commercial product.

**Exhibit 1: Valuation of ColiPlant**

Product	Status	NPV (\$m)	rNPV (\$m)
VergenixFG: Woundcare	Europe market	29.1	29.1
VergenixSTR: Tendonopathy	Europe market	58.3	58.3
Portfolio total		87.5	87.5
R&D			(7.1)
SG&A			(4.4)
Cash (estimated Q318 + upfront payment from United Therapeutics)			8.2
Overall valuation			84.1
ADSS			3.81
Value per basic ADS			22.08
Warrants, Options, and Debentures			3.5
Total diluted ADSS			7.3
Diluted value			108.7
Value per diluted ADS			14.80

Source: Edison Investment Research

## Financials

ColiPlant reported revenue of \$170,000 (NIS653,000) in Q218 from sales of its BioInk product in the US as well as sales of its Vergenix product brands in Europe (primarily its VergenixSTR for tendonopathy). We expect the company to receive \$5m as an upfront payment, which we record as revenue in Q418, from United Therapeutics associated with the recently announced co-development agreement. We have therefore decreased our funding requirement to \$5.6m (NIS20m) from \$7m (NIS25m) to reach profitability in 2021, which we record as illustrative debt in 2019. The company includes prefunded warrants in its basic shares outstanding and in its EPS calculations, and our estimates reflect this calculation. As a reminder, ColiPlant plans to delist its ordinary shares, Series I warrants and Series K warrants from the TASE and that the last day of trading on the TASE will be on 29 October 2018. The company's American depository shares (ADS) (ie ADSS trade at a 1 to 50 ratio of ordinary shares) will continue to trade on the NASDAQ.

**Exhibit 2: Financial summary**

	NIS'000s	2016	2017	2018e	2019e
Year end 31 Dec		IFRS	IFRS	IFRS	IFRS
<b>PROFIT &amp; LOSS</b>					
Revenue		292	1,668	21,122	7,312
Cost of Sales		0	(52)	(10,169)	(3,656)
Gross Profit		292	1,616	10,953	3,656
R&D expenses,net		(16,789)	(14,066)	(14,064)	(14,767)
SG&A expenses		(11,048)	(8,303)	(9,727)	(9,050)
EBITDA		(27,023)	(19,670)	(11,764)	(18,743)
Operating Profit (before amort. and except)		(27,545)	(20,753)	(12,838)	(20,161)
Intangible Amortisation		0	0	0	0
Exceptionals		0	0	0	0
Operating Profit		(27,545)	(20,753)	(12,838)	(20,161)
Other		0	0	0	0
Net Interest		(348)	(127)	90	94
Profit Before Tax (norm)		(27,893)	(20,880)	(12,749)	(20,067)
Profit Before Tax (FRS 3)		(27,893)	(20,880)	(12,749)	(20,067)
Tax		0	0	0	0
Profit After Tax (norm)		(27,893)	(20,880)	(12,749)	(20,067)
Profit After Tax (FRS 3)		(27,893)	(20,880)	(12,749)	(20,067)
Average Number of Shares Outstanding (m)		100.6	133.2	209.0	234.1
EPS - normalised (NIS)		(27.72)	(15.68)	(6.10)	(8.57)
EPS - FRS 3 (NIS)		(27.72)	(15.68)	(6.10)	(8.57)
Dividend per share (NIS)		0.0	0.0	0.0	0.0
<b>BALANCE SHEET</b>					
Fixed Assets		6,364	5,631	6,779	6,233
Intangible Assets		1,631	1,454	1,363	1,363
Tangible Assets		4,008	3,582	4,729	4,183
Other		725	595	687	687
Current Assets		8,069	22,414	25,189	30,843
Stocks		487	700	1,038	2,983
Debtors		3,785	3,897	5,417	3,147
Cash		3,797	17,817	18,734	24,713
Other		0	0	0	0
Current Liabilities		(6,806)	(4,918)	(5,461)	(5,465)
Creditors		(5,189)	(2,922)	(3,911)	(3,915)
Short term borrowings		0	0	0	0
Short term leases		0	0	0	0
Other		(1,617)	(1,996)	(1,550)	(1,550)
Long Term Liabilities		(2,467)	(14,044)	(6,011)	(26,011)
Long term borrowings		(286)	(12,700)	0	(20,000)
Long term leases		0	0	0	0
Other long term liabilities		(2,181)	(1,344)	(6,011)	(6,011)
Net Assets		5,160	9,083	20,496	5,600
<b>CASH FLOW</b>					
Operating Cash Flow		(19,384)	(17,903)	(7,527)	(13,053)
Net Interest		8	19	562	(94)
Tax		0	0	0	0
Capex		(492)	(447)	(2,260)	(873)
Acquisitions/disposals		0	0	0	0
Financing		18,219	20,234	22,573	0
Dividends		0	0	0	0
Other		0	0	210	0
Net Cash Flow		(1,649)	1,903	13,558	(14,021)
Opening net debt/(cash)		(5,317)	(3,511)	(5,117)	(18,734)
HP finance leases initiated		0	(253)	0	0
Other		(157)	(44)	59	0
Closing net debt/(cash)		(3,511)	(5,117)	(18,734)	(4,713)

Source: Company reports, Edison Investment Research

Edison is an investment research and advisory company, with offices in North America, Europe, the Middle East and AsiaPac. The heart of Edison is our world-renowned equity research platform and deep multi-sector expertise. At Edison Investment Research, our research is widely read by international investors, advisers and stakeholders. Edison Advisors leverages our core research platform to provide differentiated services including investor relations and strategic consulting, is authorised and regulated by the [Financial Conduct Authority](#). Edison Investment Research (NZ) Limited (Edison NZ) is the New Zealand subsidiary of Edison. Edison NZ is registered on the New Zealand Financial Service Providers Register (FSP number 247505) and is registered to provide wholesale and/or generic financial adviser services only. Edison Investment Research Inc (Edison US) is the US subsidiary of Edison and is regulated by the Securities and Exchange Commission. Edison Investment Research Pty Limited (Edison Aus) [46085869] is the Australian subsidiary of Edison. Edison Germany is a branch entity of Edison Investment Research Limited [4794244]. [www.edisongroup.com](http://www.edisongroup.com)

#### EDISON ISRAEL DISCLAIMER

Disclosure regarding the scheme to enhance the awareness of investors to public companies in the technology and biomed sectors that are listed on the Tel Aviv Stock Exchange and participate in the scheme (hereinafter respectively "the Scheme", "TASE", "Participant" and/or "Participants"). Edison Investment Research (Israel) Ltd, the Israeli subsidiary of Edison Investment Research Ltd (hereinafter respectively "Edison Israel" and "Edison"), has entered into an agreement with the TASE for the purpose of providing research analysis (hereinafter "the Agreement"), regarding the Participants and according to the Scheme (hereinafter "the Analysis" or "Analyses"). The Analysis will be distributed and published on the TASE website (Maya), Israel Security Authority (hereinafter "the ISA") website (Magna), and through various other distribution channels. The Analysis for each participant will be published at least four times a year, after publication of quarterly or annual financial reports, and shall be updated as necessary after publication of an immediate report with respect to the occurrence of a material event regarding a Participant. As set forth in the Agreement, Edison Israel is entitled to fees for providing its investment research services. The fees shall be paid by the Participants directly to the TASE, and TASE shall pay the fees directly to Edison. Subject to the terms and principals of the Agreement, the Annual fees that Edison Israel shall be entitled to for each Participant shall be in the range of \$35,000-50,000. As set forth in the Agreement and subject to its terms, the Analyses shall include a description of the Participant and its business activities, which shall inter alia relate to matters such as: shareholders; management; products; relevant intellectual property; the business environment in which the Participant operates; the Participant's standing in such an environment including current and forecasted trends; a description of past and current financial positions of the Participant; and a forecast regarding future developments in and of such a position and any other matter which in the professional view of the Edison (as defined below) should be addressed in a research report (of the nature published) and which may affect the decision of a reasonable investor contemplating an investment in the Participant's securities. To the extent it is relevant, the Analysis shall include a schedule of scientific analysis of an expert in the field of life sciences. An "equity research abstract" shall accompany each Equity Research Report, describing the main points addressed. The full scope reports and reports where the investment case has materially changed will include a thorough analysis and discussion. Short update notes, where the investment case has not materially changed, will include a summary valuation discussion. The Agreement with TASE regarding the participation of Edison in the scheme for the research analysis of public companies does not and shall not constitute an approval or consent on the part of TASE or the ISA or any other exchange on which securities of the Company are listed, or any other securities' regulatory authority which regulates the issuance of securities by the Company to the content of the Report or to the recommendation contained therein. A summary of this report is also published in the Hebrew language. In the event of any contradiction, inconsistency, discrepancy, ambiguity or variance between the English Report and the Hebrew summary of said Report, the English version shall prevail; and a note to this effect shall appear in any Hebrew summary of a Report. Edison is regulated by the Financial Conduct Authority. According to Article 12.3.2, Chapter 12 of the Conduct of Business Sourcebook, Edison, which produces or disseminates non-independent research, must ensure that it: 1) is clearly identified as a marketing communication; and 2) contains a clear and prominent statement that (or, in the case of an oral recommendation, to the effect that) it: a) has not been prepared in accordance with legal requirements designed to promote the independence of investment research; and b) is not subject to any prohibition on dealing ahead of the dissemination of investment research. The financial promotion rules apply to non-independent research as though it were a marketing communication.

#### EDISON INVESTMENT RESEARCH DISCLAIMER

Copyright 2018 Edison Investment Research Limited. All rights reserved. This report has been prepared and issued by Edison for publication globally. All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report. Opinions contained in this report represent those of the research department of Edison at the time of publication. The securities described in the Investment Research may not be eligible for sale in all jurisdictions or to certain categories of investors. This research is issued in Australia by Edison Investment Research Pty Ltd (Corporate Authorised Representative (1252501) of Myonlineadvisers Pty Ltd (AFSL: 427484)) and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. The Investment Research is distributed in the United States by Edison US to major US institutional investors only. Edison US is registered as an investment adviser with the Securities and Exchange Commission. Edison US relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. As such, Edison does not offer or provide personalised advice. We publish information about companies in which we believe our readers may be interested and this information reflects our sincere opinions. The information that we provide or that is derived from our website is not intended to be, and should not be construed in any manner whatsoever as, personalised advice. Also, our website and the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. This document is provided for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research. Edison has a restrictive policy relating to personal dealing. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report. Edison or its affiliates may perform services or solicit business from any of the companies mentioned in this report. The value of securities mentioned in this report can fall as well as rise and are subject to large and sudden swings. In addition it may be difficult or not possible to buy, sell or obtain accurate information about the value of securities mentioned in this report. Past performance is not necessarily a guide to future performance. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (ie without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision. To the maximum extent permitted by law, Edison, its affiliates and contractors, and their respective directors, officers and employees will not be liable for any loss or damage arising as a result of reliance being placed on any of the information contained in this report and do not guarantee the returns on investments in the products discussed in this publication. FTSE International Limited ("FTSE") © FTSE 2018. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under license. All rights in the FTSE indices and/or FTSE ratings vest in FTSE and/or its licensors. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE indices and/or FTSE ratings or underlying data. No further distribution of FTSE Data is permitted without FTSE's express written consent.