

# The Trendlines Group Ltd.

A portfolio of disruptive technologies in untapped markets

SINGAPORE | FINANCIALS | COMPANY VISIT

## Company Overview

- The Trendlines Group Ltd. ("Trendlines") is an innovation commercialisation company that invents, discovers, invests in, and incubates innovation-based medical and agricultural technologies with a view towards a successful exit in the marketplace
- Operates principally through two technology incubators, Trendlines Medical and Trendlines Agtech, and an internal innovation centre, Trendlines Labs
- An intensely hands-on investor: Trendlines is involved in all aspects of its portfolio companies from technology development to business building
- Exits may include among others, sales such as merger and acquisition transactions or listing on public stock exchanges
- Not a venture capital firm: No management fees, no carried interest

## Key Takeaways

- Two portfolio companies will enter into revenue stage by end-2017 and two more by 2018. Portfolio values of these companies may increase as they meet certain developmental milestones in 2017/18. As at 31 December 2016, the Group has completed six exits, and taken two companies public; while 16 out of 46 of its portfolio companies are in revenue stage.
- atTerm Technologies, one of the technologies developed by Trendlines Labs, is estimated to have more than US\$2 billion market potential in developed countries alone. However, the technology accounts for zero value in Trendlines' total portfolio value as they are developed in-house. Successful realization in investment would boost the Group's revenue.
- Continuous effort to expand portfolio value: (i) add more than 30 companies to its portfolio over the next three years; (ii) provide support to accelerate the development of the portfolio companies; (iii) explore opportunities to expand into new markets, in particular Singapore, China and German; and (iv) grow Trendlines Labs to increase royalties' income which will provide steady income streams to smoothen out the lumpy revenues arising from the volatile portfolio values.
- Undemanding valuation. Trendlines' Price-to-Portfolio Value and Price-to-Net Asset Value are trading at c.53% discount to its peers.

**Potential catalyst:** Exit from portfolio companies

## Risks

- Risk of facing cash flow problem. Realization of investment in its portfolio companies is unpredictable and volatile, and there is no assurance as to the occurrence of timing of actual exits or realizations to meet its cash needs.
- Difficult to value individual portfolio companies accurately. Main source of earnings is derived from net realized/unrealized gain in the value of its portfolio companies, which is unpredictable and volatile.
- Subject to inherent risks associated with investing in early-stage, high-risk technology companies.
- Regulatory changes, which could have adverse impact on operations, licensing and government loans and grants.
- Exchange rate risk. Functional and reporting currency is US\$, but a significant portion of its operating expenses are in NIS (principally, facilities lease expenses, salaries and related personnel expenses).

11 April 2017

## Not Rated

LAST DONE PRICE

SGD 0.155

## COMPANY DATA

O/S SHARES (MN) :	509
MARKET CAP (USD mn / SGD mn) :	56 / 79
52 - WK HI/LO (SGD) :	0.25 / 0.15
3M Average Daily T/O (mn) :	0.65

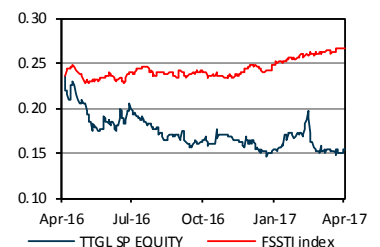
## MAJOR SHAREHOLDERS (%)

Zeev Bronfeld	14.3%
Amos and Daughters Inv and Prop	7.7%
Stephen Rhodes	2.6%
Todd Dollinger	2.6%
Meitav Dash Trust Ltd	12%

## PRICE PERFORMANCE (%)

	1M TH	3M TH	1Y R
COMPANY	2.0	(0.6)	(24.9)
STI RETURN	1.70	7.72	17.53

## PRICE VS. STI



Source: Bloomberg, PSR

## KEY FINANCIALS

USD M N	FY 13	FY 14	FY 15	FY 16
Revenue	30	9	10	0
EBITDA, adj.	23	(2)	(1)	(10)
NPAT	16	(3)	(3)	(7)
Portfolio Value	75	77	86	84
P/BV, (x)			0.98	0.67
P/PV, x			0.96	0.63
P/NAV, x			0.89	0.58
DPS (SGD)			0.0	0.0

Source: Bloomberg, PSR

**Soh Lin Sin** (+65 6212 1847)

**Investment Analyst**

sohls@phillip.com.sg

## 7th Annual Trendlines Company Showcase on 29 March 2017 in Israel

We attended Trendlines' annual Company Showcase, which nine of its medical and agtech portfolio company CEOs presented to 500 attendees – investors, entrepreneurs, and industry leaders from Israel, Singapore, China, Europe, and the United States.

**Figure 1 & 2: Opening speech by Todd Dollinger and Steve Rhodes, Chairmen and CEOs of Trendlines**



Source: PSR

The Showcase is one of the key avenues for its portfolio companies to gain exposure to investors and strategic partners around the world. The nine companies which presented at the Showcase are, Escala Medical, OrthoSpin, Zeev Implants, Tandem Technologies, atTerm, BioFishency, InPlant Technologies, MetoMotion, and Gordian Surgical.

- **BioFishency** is the only portfolio company presented during the Showcase which is in revenue stage. The company aimed to raise US\$1 million to advance marketing and sales, develop new products, and register for patents.
- **Gordian Surgical** and **OrthoSpin** will enter revenue stage by end-2017; while **Tandem Technologies** and **Zeev Implants** will start sales by 2018.

Figure 3: Key takeaways from the nine companies presented

No.	Name	Founded	Stage	Milestones	Description
<b>Medical</b>					
1	Gordian Surgical	Nov-12	Business development	<b>2Q2017: Ready for sales</b> <b>3Q2017: Begin sales</b>	Gordian Surgical's TroClose1200™ is a novel integrated port closure system.
2	Escala Medical	Dec-14	Business development	2017: FIH study; and FDA submission 2018: Clinical study; Apply for CE mark	Escala Medical is developing the first repair device for the treatment of pelvic organ prolapse (POP) based on a nonsurgical, incision-free, mesh-free repair approach.
3	OrthoSpin	Dec-14	Technology development	2Q17: To begin clinical trials in Israel 3Q17: Submit for FDA and CE <b>End-2017: Start sales in U.S.</b>	OrthoSpin is developing a smart external fixation system to allow real-time physician follow-up and to reduce dependency on patient compliance.
4	Tandem Technologies	Oct-15	Technology development	Feb-2017: Started clinical study in Israel 1Q2018: FDA approval <b>2018: Ready for sales</b>	Tandem Technologies has developed one device for precise removal and retrieval of polyps in the colon.
5	Zeev Implants	Dec-15	Technology development	End-2017: Animal Trials - non GLP; submit for FDA and CE <b>Early-2018: Conduct FIM and post marketing studies; Commence sales and distributor agreements</b>	Zeev Implants is developing a unique dental implant based on a modular design that can easily connect or separate to achieve a custom length.
6	atTerm Medical	Feb-17	Technology development	2H2017 to 1H2018: Pre-hysterectomy safety studies 2H2018 to 1H2019: First pregnant women trial 2Q2019: To receive results from first pregnant women trial; Apply for CE mark and FDA submission	atTerm Medical is developing a device to prevent preterm birth to allow women with a healthy pregnancy to reach delivery "at term."
<b>Agtech</b>					
1	BioFishency	Mar-13	Revenue	<b>Launched Asia sales, with installations in multiple countries</b> <b>AgriVest 2015 Best Israeli Agtech Company, 2nd place</b>	BioFishency's cost-effective, all-in-one water treatment system for land-based aquaculture costs a fraction of the cost of high-end water treatment systems.
2	InPlant Technologies	May-16	Technology development	R&D phase Signed collaboration agreement with a multinational company (major player in crop protection) to develop advanced crop protection products	InPlant Technologies is developing delivery technologies to increase the mobility of active agrochemical ingredients in the plant, enhancing their activity or reducing the required dosage, resulting in higher yields and lower environmental impact.
3	MetoMotion	Nov-16	Technology development	End-2017: Alpha testing Early-2018: Begin fund-raising	MetoMotion is developing a novel, multipurpose robotic system to reduce reliance on high-cost human labor in greenhouse vegetable production.

Source: Company, March 2017 Trendlines Company Showcase Presentation Slides

During the trip, we also had the chance to visit its newly expanded office space in Trendlines headquarters based in Misgav, as well as the laboratories of two portfolio agtech companies located within the Technion University in Haifa.

Figure 4 &amp; 5: Newly expanded office in Israel



Source: PSR

**Figure 6: Display of various innovations from its portfolio companies**



Source: PSR

**Figure 7: Brief introduction by Prof. Avi Schroeder, Chief Scientist of ViAqua Therapeutics**

ViAqua is developing the first orally administered treatment in aquaculture to stop diseases from developing and to prevent viral epidemics.

**Stage:** Technology development



Source: PSR

**Figure 8: Brief introduction by Gal Dvorkin, CTO of InPlant Technologies**

InPlant Technologies is developing delivery technologies to increase the mobility of active agrochemical ingredients in the plant, enhancing their activity or reducing the required dosage, resulting in higher yields and lower environmental impact.

**Stage:** Technology development



Source: PSR



## Investment Thesis

### 1. Supportive macro backdrop

#### Israel, the Start-up Nation, the hotspot of innovation

Significance of science and technology in Israel and its pro-business environment are conducive to technological innovations.

- Science and technology is the country's most developed sector
- World leader in fundamental scientific research
  - a. Percentage of Israelis engaged in scientific and technological inquiring: 17.4 researchers per 1,000 employed (vs OECD's 7.8)
  - b. The amount spent on research and development relative to its GDP: 4.2% of its GDP are invested in R&D projects (vs OECD's 2.4%)
- A highly skilled workforce with 47.4% graduating from university or third stage education
- Ranked 1st in the world for innovative capacity and 1st in the world for entrepreneurship; Overall, ranked 5th among the most innovative countries in Bloomberg
- A pro-business environment with a comprehensive suite of government incentive programs and services to help investment process.
- Robust and innovation-driven economy, coupled with supportive government attracted investments from over 270 leading multinational corporations, including Cisco, GE, Google, Hewlett-Packard, Intel, IBM, Johnson & Johnson, General Electric, etc.

#### Government's funding: The technological incubator program

- It offers early-stage companies a significant investment (up to US\$800,000) for a period of 2 to 3 years.
- The program underwent a significant change in 2012, where selection process for incubator licensees have tightened and thus increases competition.
- Incubator licensees have been selected in a competition based on the significant added value they offer early stage companies.
- The licensees invest only 15% of the project budget (the state invests the remaining), and receives in return 50% of the shares of the companies in the incubator.
- The funds are to be repaid to the government only upon generation of sales.

(Source: Invest in Israel website, by the Ministry of Economy and Industry State of Israel)

### 2. Favourable global industry prospects

#### Medical Technologies ("Medtech")

- Rising healthcare demand: favourable demographics, ageing population, longer life expectancy
- Growth of emerging markets increasing health awareness, increasing notification of chronic diseases
- Rising demand for medical technology and services, demand for sophisticated medical devices
- Shift to value-based procurement: affordability and quality healthcare
- Increase in regulatory oversight could trigger more consolidation (e.g. merger and acquisition) opportunities

### Agricultural Technologies (“Agtech”)

- Increasing global demand for food, but limited arable land to farm on and resources for farming
- Growing awareness on clean, safe, and healthy food, as well as environmental friendly but cost efficient production
- Environmental challenges are expected to lead to an increase in demand for innovative and sustainable agricultural technologies and production methods to overcome such limitations and protect the environment

***It is inevitable that these industries will boom.*** Trendlines offers investors opportunities to involve in revolutionising the healthcare and agriculture industries.

### 3. Opportunities to invest in pure incubator in the public market with low investment cost

- Three ways to obtain exposure to these sectors: investing in public equities, venture capital funds, and direct investments. But, there are limited numbers of publicly listed incubators in the world. While other avenues to invest in incubators would be via venture capital firm or direct investments, which are usually out of reach for individual investors.
- Also, since it is not a venture capital firm, there is no management fee, keeping investment cost low for investors.

### 4. Investing in early stage start-up companies by leveraging on an experienced management team and an extensive network of relationships

- Investing in the start-up space is considered a high-risk investment and may not be suitable for all investors. It attracts investors who are forward-thinking and are compelled by the macro drivers that highlight the need for transformation. However, investors may not have in-depth knowledge and insights into the market.
- Investors could leverage on Trendlines’ technical knowledge, industry experience and know-how to bridge asymmetric information, conduct due diligence as well as ongoing monitoring over its portfolio.
- The Group’s senior management comprises a team of veteran entrepreneurs and businesspeople that understands global markets, possesses the ability to bridge cultures to build businesses, and has the expertise in broad range of industries and technologies.
- Trendlines also has an extensive network of relationships with industry leaders, investors, lawyers, bankers, venture capitalists, and other professionals to help it generate quality deal flow as well as undertake fund raising activities.

### 5. Effective use of funds and disciplined investment strategy that focuses on expansion of portfolio value

- Trendlines leverage its portfolio investments with **non-dilutive funding**, which could be from:
  - a. **Government.** Trendlines is one of Israeli government-licensed incubators and thus highly funded by the R&D grants from government through the Technological Incubators Programme.

Figure 9: Capital leverage during the first two years

❖ Israeli government* new company grant	: c.US\$670,000
❖ Trendlines' cash investment	: c.US\$120,000 per company
❖ Trendlines' in-kind investment at cost	: c.US\$450,000 per company over a two-year period
<b>Typical investment per company</b>	<b>: c.SU\$1.24 million</b>
Similar leverage in Singapore	
<p><i>* Israeli government grant</i></p> <p>The government does not own any equity of the portfolio company, and has no rights to the intellectual property owned by the portfolio company.</p> <p>Portfolio companies are obliged to pay Sales royalty to the government as part of grant repayment (with interest). Additional payments at exit are applicable if intellectual property moved overseas.</p>	

**b. Entrepreneurs, inventors, universities and research institutions, and needs identified by industry partners** across various countries, including Israel, United States, Germany, China and Singapore.

▪ **Drivers for portfolio value expansion and Trendlines' value building strategy**

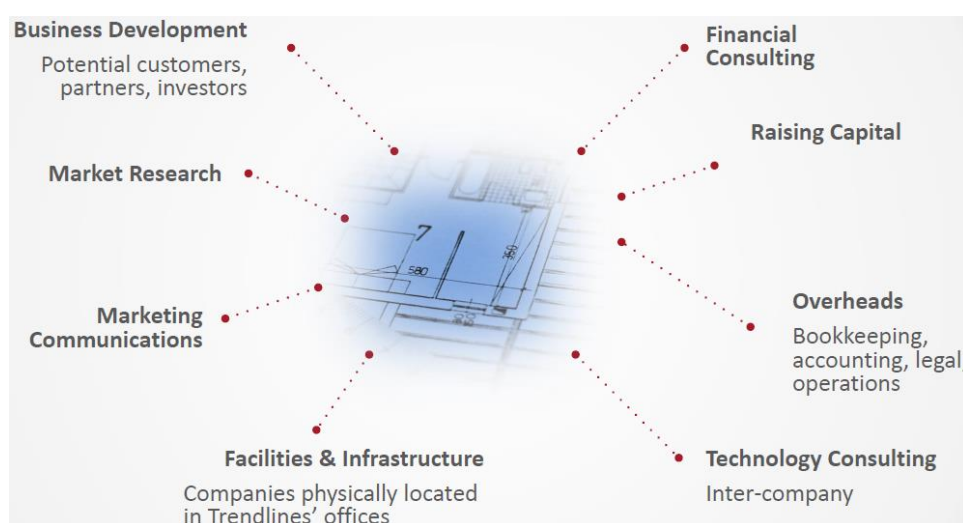
**a. Increasing the number of companies in the portfolio**

Target to add more than 30 companies to its portfolio over the next three years. This is in line with its deal flow strategy of c.10 new companies to be added to portfolio each year (*please refer to Point 6 below*).

**b. Building portfolio companies' value and building companies for exit**

Intense support to help portfolio companies to achieve their full potential in the market. It also actively participates in follow-on investments in portfolio companies to accelerate the portfolio company's development, demonstrate support and confidence, as well as to limit dilution.

Figure 10: Creating a foundation with intensive support



Source: Trendlines Investor Presentation, April 2017

**c. Expand into new markets**

Established Trendlines Medical Singapore, while exploring additional international opportunities in China, German, and Singapore.

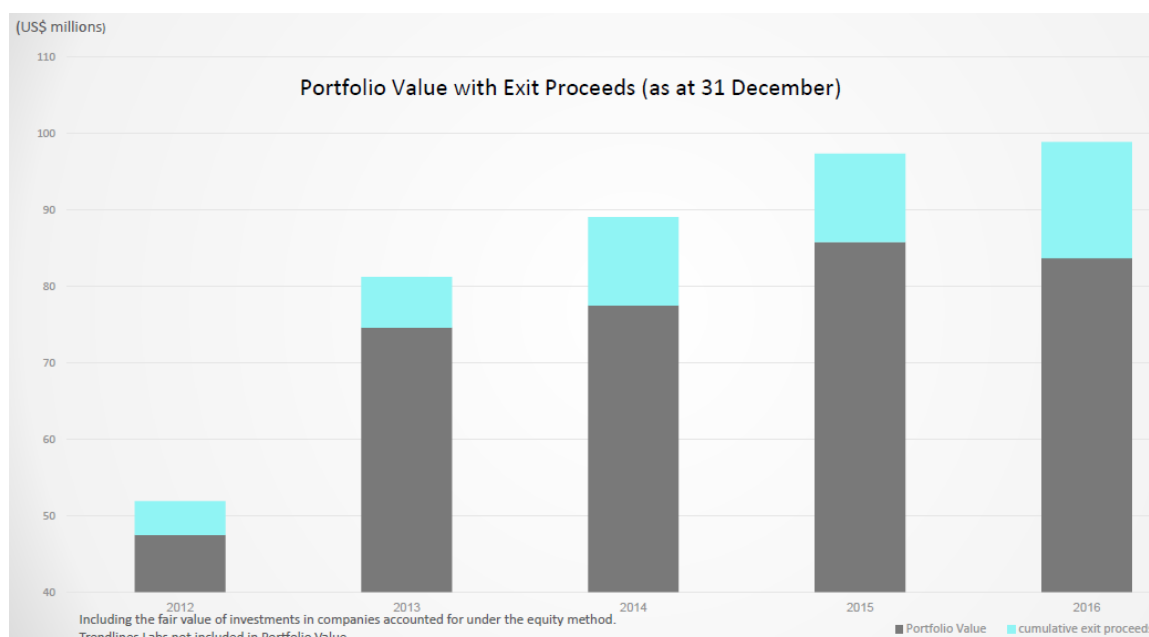
**d. Expand Trendlines Labs**

Trendlines Labs is the in-house innovation centre of The Trendlines Group, focused on inventing technologies and products to meet critical unmet market needs.

It creates new IPs and new portfolio companies. It invests in selected innovations and create spinoffs, while generates recurring revenues in form of royalties.

It will continue to establish new joint ventures with multinationals and increase recurring revenue stream. The increased royalties will provide steady income streams, thus smoothen out the lumpy revenues arising from exits.

**Figure 11: Value Creation through portfolio expansion**



Source: Trendlines Investor Presentation, April 2017

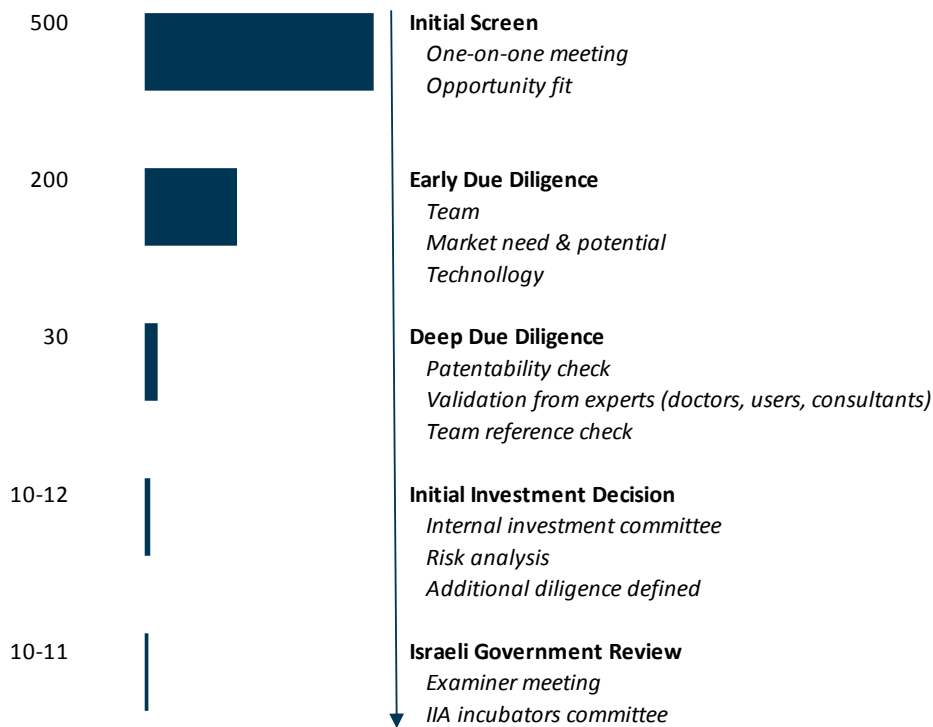
## 6. Prudent investment approach

### Partnership selection

- Trendlines reviews more than 500 opportunities annually. With about 30 years of experience and know-how in medical and agtech, combined with the data analytics from its machine learning system and Big Data platform, each business proposal will undergo intense due diligence.
- In addition to being a passionate and committed leader, Trendlines will consider the business proposal on two levels:
  - a. Market demand for the product (in terms of unmet needs, unique and innovative technologies, and market potential for the product)
  - b. Evaluate whether it is focused on solving the problem at hand
- After going through a comprehensive selection process, Trendlines will only establish and invest in about 8 to 10 companies (which is equivalent to c.2% of its total projects reviewed).
- Till date, Trendlines has invested in more than 60 companies and has a portfolio of 46 companies as at 31 December 2016.



**Figure 12:**  
**Intense Due Diligence**



Source: March 2017 Trendlines Company Showcase Presentation

#### Deal flow process

- All portfolio companies are located in Trendlines' facilities and are extensively supported by its staff for at least their first two to three years of incubation. Currently all of its portfolio companies are based in Israel and the average size of the portfolio companies is very small, with 2 to 5 people.
- High support-level allows portfolio companies to focus on developing their technology, product and market, thereby reducing risk and increasing the chances of success.
- Average investment in these companies is about US\$1.24 million
  - a. The first investment mainly finances initial technology development and market research
  - b. Second round of investment usually begins after 2 to 3 years of operation
  - c. The company's growth and incubation usually needs US\$4 million to US\$6 million
  - d. Generally, total capital of US\$5 million on average to support the company to maturity
- Time to anticipated exit is slightly shorter at six years or less, as compared to industry average of seven years.

Figure 13: Trendlines model and milestones



Source: Trendlines Investor Presentation, November 2016

#### Risk mitigation with close monitoring

- **Monthly review of all portfolio companies**
  - a. Status review: R&D, business development, patent issues, financial issues
  - b. Assign three-tier risk rating to each company
- **Quarterly review to identify exit candidates next 24 months.** Main criteria include:
  - a. Product development: advanced stage or near completion
  - b. Meaningful real-world demonstration of product efficacy in clinical or field trials
  - c. Strong intellectual property (IP) position
  - d. Starting or close to starting sales
- **Israeli government oversight**
  - a. Quarterly financial report and semi-annual qualitative report for each company that receives funding
  - b. Annual audits of incubators

## 7. Strong reputation, brand and track record

- A strong track record to develop and execute exit strategies for portfolio companies.

**Figure 14: Completed six exits, and taken two companies public**

Year	Company/Description	Acquirer or Listing	Estimated Returns <sup>(1)</sup>
2016	E.TView Medical Continuous airway visualization during lung-isolation procedures	Ambu A/S	NA
2014	Most Valuable Portfolio Company <sup>(3)</sup>	Undisclosed <sup>(3)</sup>	66.9X <sup>(2)</sup>
2014	Inspiro Medical Novel dry powder inhaler	OPKO Health Inc.	8.8X
2013	InnoLap Surgical Device for microlaparoscopic surgeries	Teleflex, Inc.	3.2X
2013	FlowSense Medical Accurate, real-time fluid (urine) monitoring	Baxter International Inc.	4.0X
2011	PolyTouch Medical Laparoscopic device for accurate, rapid hernia mesh deployment	Covidien Ltd.	6.7X
2010	FlowSense Medical Accurate, real-time fluid (urine) monitoring	Reverse merger on TASE	NA
2010	E.TView Medical Continuous airway visualization during lung-isolation procedures	Reverse merger on TASE	NA

Successful exits at multiples of its book value

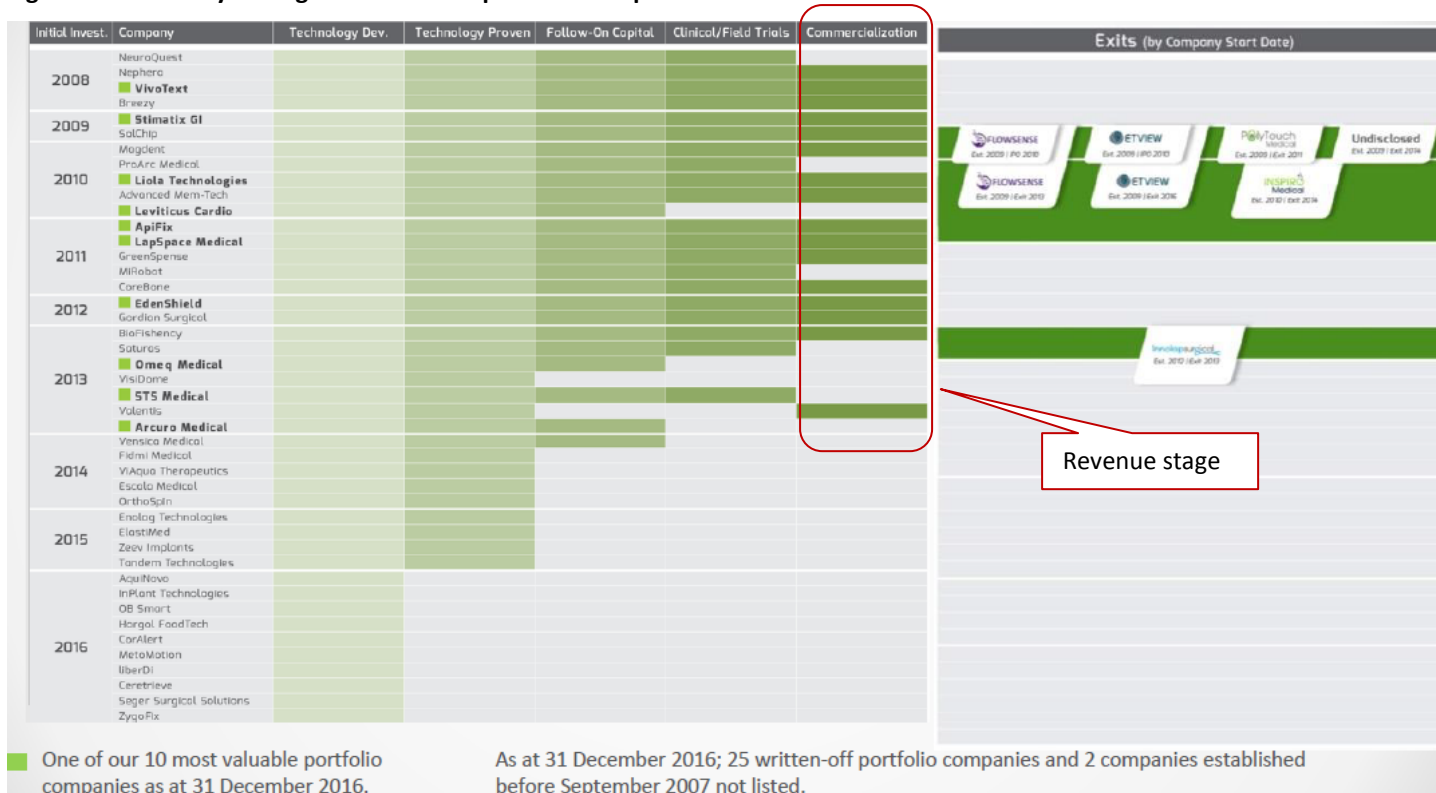
### Notes:

1. Estimated return represents the multiples on the exit proceeds to our investment (net of Israeli Office of Chief Scientist funding) in the exited company, which comprises (i) our initial cash investment; (ii) additional investments through estimated value of the provision of services; and or (iii) our estimated overhead expenses incurred in relation to the exited company.
2. Based on the estimated fair value at the point when the agreement was executed compared to our investment up to that point in time.
3. Unable to disclose due to confidentiality obligations.

Source: Company website, April 2017

- In addition, about 16 of its 46 portfolio companies are currently in revenue stage.

**Figure 15: Summary of stages of individual portfolio companies**



Source: Trendlines Investor Presentation, April 2017

- Awards and accolades it has earned are good testament to its reputation as being one of the best incubator organisations in Israel.
  - a. Trendlines Medical has twice been named the best incubator in Israel by the Israel Innovation Authority, in Year 2010 and 2014
  - b. Five of its portfolio companies have been named the best start-ups of the year by the Israel Innovation Authority

## 8. Industry leaders as strategic partners: B. Braun and Bayer

### B. Braun Melsungen AG

- A German privately held company which supplies global health care markets. It was founded in 1839 and currently has 56,000 employees worldwide with global sales of €6.1 billion.
- Invested c.US\$5 million in Trendlines' IPO
- Invested c.US\$4 million in portfolio companies (US\$2.8 million in ApiFix and €1 million in Gordian Surgical)
- Investor/founder of Trendlines Medical Singapore

### Bayer AG

- A global life sciences public company (with market cap at €89.2 billion as at 4 April 2017) founded in 1863 in Germany. It has 117,000 employees worldwide with global sales of €46.3 billion.
- Invested US\$10 million in Bayer Trendlines Ag Innovation Fund, which is managed by Trendlines. The fund will focus on investments in early-stage agtech portfolio companies of the Group that could be of interest to Bayer.

**Japanese Medical Device Multinational**

- Agreement with Trendlines Labs to collaborate on clinical opportunities
- Trendlines Labs developing innovative products for manufacture and marketing by MNC

**U.S. Medical Device Multinational**

- Successfully marketing product designed and developed by Trendlines Labs
- Additional projects in development with multiple divisions



## Valuation

Management shared that Trendlines does not disclose valuation of individual portfolio companies as they are sensitive commercial information. However, the management guided us on how we could approach its valuation by (a) Simple reconciliation of its Portfolio Value; and (b) Industry or peer comparison using three different metrics.

### (a) Breaking down its Portfolio Value

**Figure 16: Trendlines' 10 most valuable portfolio companies**

Fair market value of **10 most valuable portfolio companies ~US\$57.0 million**,  
**68.1%** of total portfolio value of ~US\$83.7 million.\*

Company Name	Initial Investment	% Owned (Fully Diluted)
ApiFix Ltd.	2011	26.33
Arcuro Medical Ltd.	2013	37.36
EdenShield Ltd.	2012	36.54
LapSpace Medical Ltd.	2011	54.58
Leviticus Cardio Ltd.	2010	23.71
Liola Technologies Ltd.	2010	29.14
Omeq Medical Ltd.	2013	33.83
Stimatix GI Ltd.	2009	27.17
STS Medical Ltd.	2013	35.37
VivoText Ltd.	2008	22.90

6 out of 10 Most Valuable portfolio companies are in revenue stage

\*As at 31 December 2016

Source: Trendlines Investor Presentation, April 2017

As disclosed in its 2016 Annual Report, the most valuable portfolio company accounts for US\$40.7 million. This implied that:

- the average fair market value of the remaining **9 most valuable portfolio companies** = US\$1.8 million
- the average fair market value of the other **36 portfolio companies** = US\$0.7 million

One of the common valuation methods to decide on a start-up valuation is "Valuation by Stage". The valuation by stage method is often used by angel investors and venture capital firms to come up with a quick range of start-up valuation. This method uses the various stages of funding to decide how much risk is still present with investing in a start-up. The further the company has progressed along the stages of funding the less the present risk and the higher its value.

**Figure 17: Valuation-by-stage model**

Estimated Company Value	Stage of Development
\$250,000 - \$500,000	Has an exciting business idea or business plan
\$500,000 - \$1 million	Has a strong management team in place to execute on the plan
\$1 million – \$2 million	Has a final product or technology prototype
\$2 million – \$5 million	Has strategic alliances or partners, or signs of a customer base
\$5 million and up	Has clear signs of revenue growth and obvious pathway to profitability

Such "rule of thumb" values indicate that start-ups with just a business plan will receive a small valuation, but that will increase as they meet developmental milestones.

The 10 most valuable portfolio companies include six portfolio companies in revenue stage while the others in business development stage. This suggest that the 10 portfolio companies, which are also in revenue stage and are not in the list of 10 most valuable portfolio companies, could be valued at less than US\$1.8 million. That compared to c.US\$5 million estimated company value as referenced from the table

above, then Trendlines' portfolio value appears to be undervalued.

## (b) Industry or peer comparison in three different metrics

### Method 1: Industry Comparables Price to Book

Figure 18:

Industry Comparables Price to Book	
661 Health Care Products Companies Average** Price/Book	3.63
403 Farming and Agriculture Companies** Average Price/Book	2.25
<b>Trendlines Price to Book (4 April 2017)</b>	<b>0.67</b>
**Source: Prof. Aswath Damodaran, New York University, 5 Jan 2017 <a href="http://people.stern.nyu.edu/adamodar/New_Home_Page/datacurrent.html">http://people.stern.nyu.edu/adamodar/New_Home_Page/datacurrent.html</a>	

Source: Trendlines Investor Presentation, April 2017

Multiple based on Book Value is less representative as:

- (i) Majority players are manufacturers instead of incubators;
- (ii) Does not reflect the company's money generating potential or future monetisation (revenue in form of royalty or exit) strategies; and
- (iii) Does not capture intangible assets on their balance sheets

### Method 2: Price/Portfolio Value

Figure 19:

Price to Portfolio (FMV)*	
Allied Minds (LSE:ALM)	1.20
Touchstone Innovations (AIM:IVO)	1.54
IP Group (LSE:IPO)	1.57
PureTech Health (LSE:PRTC)	1.17
Average Price to Portfolio	1.37
<b>Trendlines Price to Portfolio</b>	<b>0.65</b>

Trading at c.53% discount compared to peers

\*Based on market cap on 4 April 2017, divided by last available Portfolio Value

Source: Trendlines Investor Presentation, April 2017

Multiple based on Portfolio Value is more relevant as Trendlines' main source of earnings is generated from net realised and/or unrealised appreciation in the value of its investment in portfolio companies.

Portfolio Value takes into account of the progress of the portfolio company's technology, receipt of patent technologies, receipt of patent protection, commercialisation and partnering, market acceptance of new products and sales, and the methodologies and opinions of independent valuation specialist.

## Method 3: Price/NAV

Figure 20:

Traded Peer Group & Industry Comparables	Date of IPO	Listed	Market Cap (£m)	Price/NAV* (x)
IP Group	Oct-13	LSE	822	1.13
Touchstone Innovations (f.k.a. Imperial Innovations)	Jul-06	LSE	502	1.05
NetScientific Group	Sep-13	LSE	28	1.21
Allied Minds	Jun-14	LSE	394	0.76
Mercia Technologies	Dec-14	LSE	122	2.06
Malin	Mar-15	ISE	340	1.69
Puretech	Jun-15	LSE	273	0.76
Draper Esprit	Jun-16	LSE	142	42.06
Average			328	6.34
Average ex-Draper Esprit			354	1.24
Trendlines Group	Nov-15	SGX	44	0.58

Trading at c.53% discount compared to peers

Source: Bloomberg, PSR (at 10 Apr 2017)

\* NAV calculated as portfolio value + cash

NAV takes into account of readily available capital to invest in the portfolio companies.

Nonetheless, all three methods unambiguously suggest that Trendlines is currently undervalued.

**Furthermore, all three methods exclude valuation for products developed by Trendlines Labs**

The balance sheet does not account any value for the portfolio of technologies invented by Trendlines Labs as they are developed in-house. However, these inventions record R&D expenses on income statement.

For example, atTerm Technologies, one of the technologies developed by Trendlines Labs, is estimated to have more than US\$2 billion market potential in developed countries alone. However, the technology accounts for zero value in Trendlines' total portfolio value as they are developed in-house.

This indicates that Trendlines is further undervalued if the inventions from Trendlines Labs are included under Portfolio Value.

Figure 21: Trendlines Labs: Hidden Value

**Selected Achievements 2016**

- Income from Trendlines Labs rises to US\$1.1 million, compared to US\$0.4 million in FY2015
- 2 development programs started with new strategic partners
- 3 new strategic, revenue-producing agreements
- 2 Trendlines Labs technologies entering commercialization stage:
  - Biopsy needles (commercializing as new company in Trendlines Medical)
  - Stress urinary incontinence device

**Selected Trendlines Labs Portfolio**

Field	Invention	Dev. Status
Urology	Reduced infection-risk Foley catheter	Prototype
Neurology	Disposable surgical endoscope	Concept
Women's Health/Gynecology	Delaying pre-term birth	Prototype
	Urinary stress incontinence support device	Initial clinical trial
Men's Health	Prostate cancer screening system	Preclinical trial
Diagnostics	Low-cost dehydration monitor	Initial trial
	Improved biopsy needle	Establishing company

Source: Trendlines Investor Presentation, April 2017

## Developments in 2016

- **Renewal of Israel incubator license.** The Israel Innovation Authority renewed its incubator license for an additional eight years and approved its request to include both medical and agricultural technology investments in the renewed license (ending in 31 December 2023).
- **Started 10 new companies.** Bringing the total number of portfolio companies, net of write-offs, to 46. 17 of the portfolio companies raised a total of US\$20 million in follow-on capital in 2016.
- **Definitive cooperation agreement signed with B. Braun Melsungen AG.** B. Braun also invested c.US\$4 million in two of its portfolio companies, ApiFix and Gordian Surgical.
- **Another major European partner, Bayer AG.** Bayer Ag joined Trendlines in April 2016 to form and invest US\$10 million in the Bayer Trendlines Ag Innovation Fund to invest in Trendlines portfolio companies.
- **Breakthroughs in Trendlines Labs.** Revenues from Trendlines Labs almost tripled to US\$1.14 million in 2016, from US\$0.4 million in 2015. Trendlines Labs has successfully grown two of its units to reach out to multinationals in Europe, Asia and North America. It has signed framework agreement with large Japanese medtech multinational, and received new order from large US medtech multinational.
- **Establishing footprint in Singapore.** Established Trendlines Medical Singapore, its first incubator outside of Israel, in 2016. Received support both from B. Braun in its role as an active minority shareholder and from SPRING Singapore, the enterprise development agency of the Singapore Ministry of Trade and Industry, which awarded a S\$2.2 million grant to the new incubator.

## Developments in 2017

### Investment in Trendlines Medical Singapore Pte. Ltd.

- PrimePartners Corporate Finance Holdings Pte. Ltd. (PrimePartners) joins Trendlines and B. Braun as the third investor in Trendlines Medical Singapore. PrimePartners will be a minority shareholder in Trendlines Medical Singapore, holding approximately 3.57%, and B. Braun holding approximately 20.00%, with Trendlines being the majority shareholder with approximately 76.43%.
- Trendlines Medical Singapore will receive a grant of up to S\$2.2 million under the Incubator Development Program administered by SPRING Singapore.

### Established and invested in three new medical companies in Israel

- **Ceretriev Ltd.:** Developing a device for treating ischemic stroke
- **Sege Surgical Solutions Ltd.:** Developing an anastomotic closure device for laparoscopic bowel resection
- **ZygoFix Ltd.:** Developing a miniature screwless spinal fusion implant

### Updates from Portfolio Companies

- **Gordian Surgical Ltd.:** Completed 17 successful surgical procedures in January, marking the first time the system had been used in the United States, and bringing the total number of successful surgeries to nearly 75. The Company was recently granted a patent in the United States and received its first purchase order from a European distributor.
- **S.T. Stent Ltd.:** Completed a successful first-in-human pilot study.
- **CoreBone Ltd.:** Received the Israel Ministry of Health certification to enable the company to market its bone-graft product for dental and orthopedic procedures in Israel.

## What's Next?

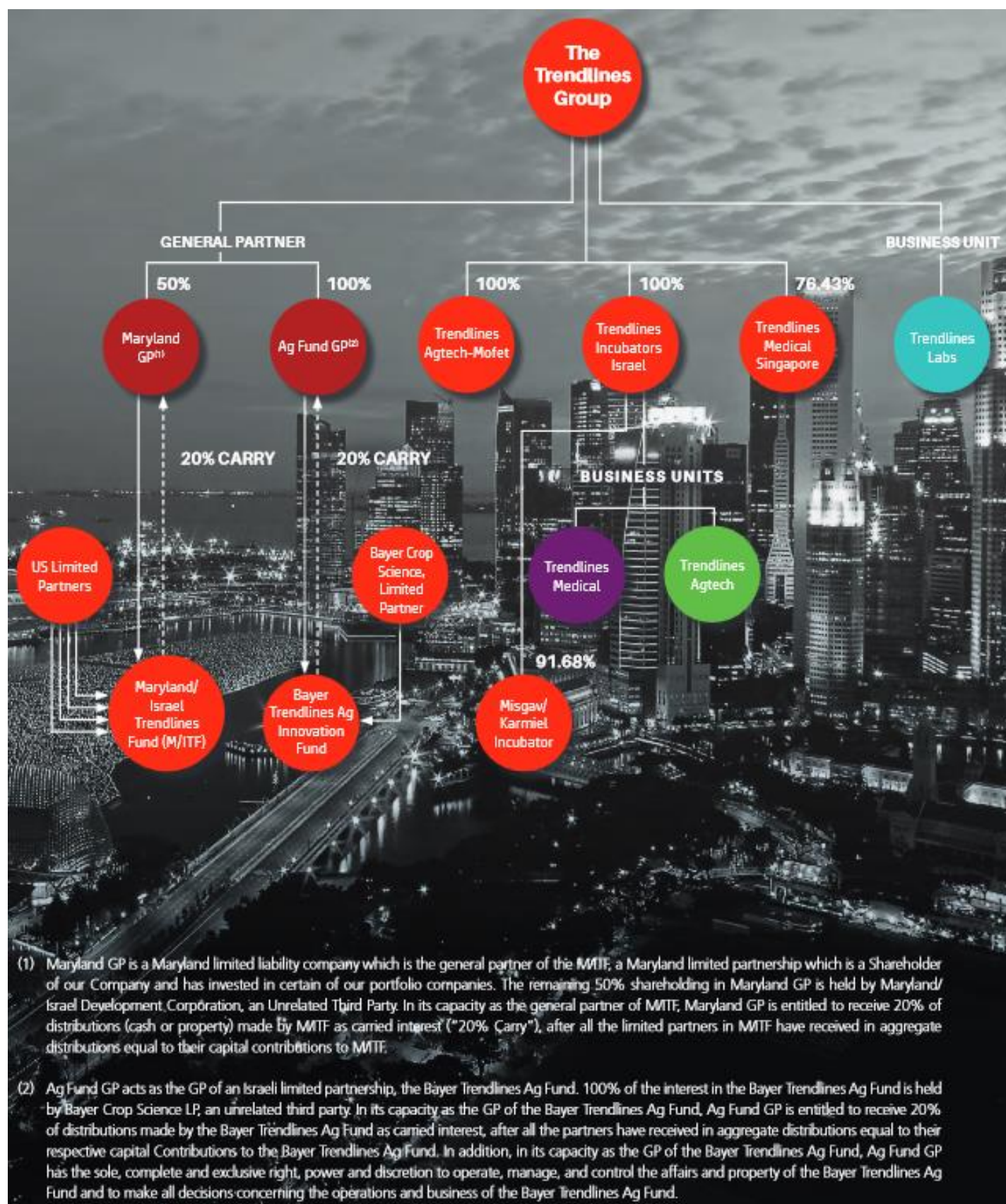
### First investment in SG soon

- Trendlines Labs is in partnership with the Singapore General Hospital (SGH) on product development and clinical trial of its Stress Urinary Incontinence (SUI) device.
- It will receive a grant from the Singapore-Israel Industrial R&D Foundation (SIIRD) up to 50% of the US\$400,000 required to fund the development and clinical trial for its SUI product.
- The SUI device is non-surgical, non-pharmaceutical solution to mitigate SUI, providing women who suffer from SUI with a simple-to-use, self-administered home treatment.
- 50 women are expected to participate in the clinical trial starting mid-2017 at SGH facilities, where the management and collection of clinical data will take place.
- Large market potential. SUI affects approximately 15 million women in the United States alone. At commercialization of the device, both Trendlines Labs and SGH will enjoy royalties from the development.



## APPENDIX

## Group Structure



Source: Company 2016 Annual Report

## History and Milestones

### Year Milestones

- 1991** Managed Israeli medical device start-up
- 1993** Established Trendlines International, a business development consultancy
- 1996** Joined board of directors of the Misgav Technology Center (now Trendlines Medical), a government-licensed business incubator
- 2000** Trendlines International grows to become the largest business development firm in Israel addressing the U.S. market
- 2007** **Established The Trendlines Group Ltd.** to acquire the Mofet B'Yehuda Accelerator (now Trendlines Agtech) and Trendlines Medical  
The Trendlines Group is awarded the licenses from the Israeli government for both technological incubators
- 2008** The Trendlines Group absorbs Trendlines International's consulting team
- 2009** Trendlines **evolved from consulting to investing**  
Trendlines builds new offices in the Misgav Business Park for The Trendlines Group and Trendlines Medical
- 2010** Organized 1st Annual Trendlines Investment Event in Israel  
**Portfolio companies ETVIEW and FlowSense go public on the Tel Aviv Stock Exchange**
- 2011** Organized 1st Trendlines-sponsored U.S. Road Show  
Trendlines Agtech adopts new strategic focus on agricultural technologies (agritech), the only agritech-focused business incubator in Israel.  
**Established Trendlines Labs** as in-house "invention factory"  
**Portfolio company PolyTouch Medical acquired by Covidien**
- 2012** Established 1st Agrivest conference, Israel's premier agtech industry event
- 2013** Changed names of the venture accelerators to Trendlines Medical and Trendlines Agtech  
Built new Trendlines Agtech offices, expanded Tel Aviv meeting center, and expanded Misgav-area corporate headquarters to accommodate the growth of Trendlines Medical and Trendlines Labs  
**Baxter International acquired portfolio company FlowSense**  
**Teleflex acquired portfolio company Innolap**  
Medical portfolio company received investment from a Chinese venture firm, the first Chinese investment in a Trendlines company  
**Established 9 new portfolio companies**
- 2014** **OPKO acquired portfolio company Inspiro Medical; and another exit (undisclosed)**  
**26 portfolio companies complete raises with Israeli, American, Canadian, Chinese, and European investors**  
**Established 7 new portfolio companies**
- 2015** **Listing on Singapore Stock Exchange (SGX) on 26 Nov 2015**
- 2016** Definitive cooperation agreement signed with B.Braun Melsungen AG  
Trendlines Labs signed framework agreement with large Japanese medtech multinational and received new order from large US medtech multinational  
Bayer AG signs agreement committing to invest \$10million in Trendlines Bayer Ag Innovation Fund  
**Established Trendlines Medical Singapore**

Source: Company

## Board of Directors

Name	Designation	Description
Todd Dollinger	Chairman and Chief Executive Officer	<ul style="list-style-type: none"> <li>Responsible for the overall management of the Group's business operations (particularly, in the areas of budget and operations) and is primarily responsible for business development in China.</li> <li>Serves as director and chairman of the board on a number of Trendlines' portfolio companies.</li> <li>Founded Trendlines, Inc., a U.S.-based company providing sales, marketing, consulting, and product development services for the U.S. market in 1978.</li> <li>Joined the marketing department of Israeli company SRD Medical in 1990 as SRD Medical's CEO, managing private equity placements and all aspects of marketing and product development.</li> <li>Cofounded a business development consulting company with Steve Rhodes in 1993. In 2004, together with Steve, Todd created the Trendlines Israel Fund. In 2007, they cofounded The Trendlines Group and merged the principal consulting activities into it the following year.</li> </ul>
Steve Rhodes	Chairman and Chief Executive Officer	<ul style="list-style-type: none"> <li>Responsible for the overall management of the Group's business operations (particularly, in the areas of finance and compliance reporting functions) and is primarily responsible for the establishment of strategic partnerships in Europe and the United States.</li> <li>The chairman of Trendlines Agtech and serves as director and chairman of the board on a number of the Group's portfolio companies.</li> <li>Cofounded the predecessor to Trendlines in 1993 with Todd. The CEO of the Misgav Venture Accelerator (now Trendlines Medical) in 2004, focusing the incubator's innovation efforts on the life sciences, particularly medical devices.</li> <li>Held a number of financial marketing and lending positions in Bank Leumi. Joined SRD Medical in 1988 and served as its CFO, VP sales and marketing.</li> </ul>
Zeev Bronfeld	Non-Executive Director	<ul style="list-style-type: none"> <li>Currently the CEO of Bio-Cell Ltd. and the CEO of M.B.R.T Development and Investment Ltd.</li> <li>Has significant experience in the management and building medical device and biotechnology companies.</li> <li>The co-founder of Bio-Cell and served as its CEO and director (until 2014).</li> <li>A director and chairman of D.N.A. Biomedical Solutions, a publicly traded company (TASE); a director of the AMEX-listed company, Protalix BioTherapeutics, Inc., and the NASDAQ-listed company, MacroCure Ltd.</li> <li>Also serves as director and chairman of a number of private companies.</li> </ul>
Elka Nir	Lead Independent Director	<ul style="list-style-type: none"> <li>Extensive marketing, investment, business development, and operations experience.</li> <li>The founder and CEO of E.LeadIN Ltd., a company that provides business, strategy, marketing, and investment consultancy services.</li> <li>The CEO of Carmel Ltd., the economic corporation of Haifa University, Israel.</li> <li>Previously the Managing Director, Giza Venture Capital; COO &amp; Director of Development, Biosense Webster (Israel), Johnson &amp; Johnson; and VP, R&amp;D, and VP Marketing at General Electric Medical Systems (GE), Israel.</li> <li>Was a non-executive external director of BATM Advanced Communications Ltd. (LSE), a board member of Israel Advanced Technology Industries (IATI) and a director and investment committee member at Van Leer Technology Ventures.</li> </ul>
Stephen Philip Haslett	Independent Director	<ul style="list-style-type: none"> <li>The managing director (Asia Pacific) of Memjet Incorporated, developers of next-generation printer technology for office and commercial applications.</li> <li>Founded Silver Fox Pte Ltd. which provides consultancy services in business development and commercialization.</li> <li>30+ years of experience in the IT business, and has held executive positions at Hewlett Packard, Dell Computer, and various technology start-ups where he assisted in the commercialization and globalization of their technologies.</li> <li>A professor of entrepreneurship at INSEAD. Taught postgraduate and executive courses on entrepreneurship, private equity, venture capital, and computer-based business stimulations.</li> </ul>

Professor Hang Chang Chieh	Independent Director	<ul style="list-style-type: none"> <li>The head, Division of Engineering &amp; Technology Management, of the National University of Singapore (NUS), since 2007.</li> <li>Served in a number of positions at NUS, including vice-dean of engineering, head of the department of electrical engineering and deputy vice-chancellor (research and business ventures).</li> <li>Seconded to the Agency for Science, Technology and Research (A*STAR) and acted as A*STAR's executive deputy chairman between 2001 and 2003.</li> <li>Founding deputy chairman of Singapore's National Science and Technology Board, founding chairman of the Intellectual Property Office of Singapore, a member of the board of trustees of the Singapore Institute of Technology, and has served as a director in public companies.</li> </ul>
----------------------------	----------------------	---

Source: Company

## Senior Management

Name	Designation	Description
Todd Dollinger	Chairman and Chief Executive Officer	As description on table above
Steve Rhodes	Chairman and Chief Executive Officer	As description on table above
Nitza Kardish, Ph.D.	CEO, Trendlines Incubators Israel	<ul style="list-style-type: none"> <li>Joined Trendlines Agtech in 2011.</li> <li>15 years of experience working in senior management positions at life science companies.</li> <li>Previously the VP business development at the Technological Incubator; CEO of Clal Life Sciences; CEO of UroGyn; and VP business development at Raphael Development Cooperation.</li> <li>A research fellow in the Department of Plant Genetics at the Weizmann Institute of Science.</li> <li>Holds a Ph.D. (life sciences) and M.Sc. from Tel Aviv University.</li> </ul>
Yosi Hazan	CEO, Trendlines Labs	<ul style="list-style-type: none"> <li>Joined Trendlines Labs in 2011.</li> <li>Experienced in global R&amp;D management and marketing.</li> <li>Held executive positions in engineering and development and has more than 25 years of experience spanning various markets, including military and semiconductor equipment and medical devices.</li> <li>Was COO at CogniFit and GM at Biosense Webster; a business unit manager at KLA-Tencor.</li> <li>Holds an M.Sc. in electrical engineering from the Technion-Israel Institute of Technology.</li> </ul>
Eric Loh	CEO, Trendlines Medical Singapore	<ul style="list-style-type: none"> <li>20+ years work in medical device industry.</li> <li>Has intense involvement in taking companies from early stage development to exits, and experience promoting entry of Singaporean companies into the fast growing Chinese market. Most notably, in his role as the Managing Director of Biosensors International, where he successfully developed the company to a publicly traded company on the Singapore Stock Exchange, established a joint venture operation in China.</li> <li>Holds an M.Sc., Medical Engineering, and B.Eng. (Hons.), both from the National University of Singapore; a graduate of an Executive MBA program affiliated with the Helsinki School of Economics; and a CFA charterholder.</li> </ul>
Gabi Heller	CFO, The Trendlines Group	<ul style="list-style-type: none"> <li>Joined Trendlines in 2010.</li> <li>Has extensive financial experience. Previously worked as an accountant, CFO, and director of public and private companies. Was a manager with Ernst &amp; Young Israel, then the CFO at Walden Israel Ventures.</li> <li>Currently serves as a director of Ashlad, Camtek, Kerur Holdings, and Elco Holdings, all publicly traded companies.</li> <li>Holds an LL.M. from Bar-Ilan University Faculty of Law and a B.A. in economics and accounting from the Hebrew University of Jerusalem; and a CPA in the State of Israel.</li> </ul>



Yossi Ron	COO and Company Secretary, The Trendlines Group	<ul style="list-style-type: none"> <li>▪ Joined Trendlines in 2011. Served as CEO of Trendlines Agtech and its predecessors.</li> <li>▪ Previously established and managed AEROMAOZ, an aviation electronic equipment production company, which became a global company under his leadership.</li> <li>▪ Holds a B.Sc. in industrial engineering and management from Tel Aviv University.</li> </ul>
Moshe Katzenelson	VP Business Development, The Trendlines Group	<ul style="list-style-type: none"> <li>▪ Joined Trendlines in 2015 and is responsible for Trendlines' corporate business development activities: starting new Trendlines-owned operations outside Israel as well as assisting Trendlines portfolio companies to develop their own business.</li> <li>▪ Diverse experiences: R&amp;D work as an engineer in the Israeli Air Force; management of large commercial projects in the telecom industry (ECI Telecom and Pelephone) and in the agricultural industry (Netafim, the world leader in drip irrigation); venture capital work, including six years as CEO of two start-up incubators (StageOne Ventures and the Technion incubator); and as a consultant (Goldratt Consulting, working with management of large companies mostly in India).</li> <li>▪ Received an MBA from Tel Aviv University and a B.Sc., aeronautical engineering, from the Technion-Israel Institute of Technology.</li> </ul>

Source: Company



**Contact Information (Singapore Research Team)****Head of Research**Paul Chew – [paulchewkl@phillip.com.sg](mailto:paulchewkl@phillip.com.sg)**Research Operations Officer**Mohamed Amiruddin – [amiruddin@phillip.com.sg](mailto:amiruddin@phillip.com.sg)**Consumer | Healthcare**Soh Lin Sin – [sohls@phillip.com.sg](mailto:sohls@phillip.com.sg)**Property | Infrastructure**Peter Ng – [peterngmc@phillip.com.sg](mailto:peterngmc@phillip.com.sg)**Macro**Pei Sai Teng – [peist@phillip.com.sg](mailto:peist@phillip.com.sg)**Transport | REITs (Industrial)**Richard Leow, CFTE, FRM –  
[richardleowwt@phillip.com.sg](mailto:richardleowwt@phillip.com.sg)**REITs (Commercial, Retail, Healthcare) | Property**Dehong Tan – [tandh@phillip.com.sg](mailto:tandh@phillip.com.sg)**Technical Analysis**Jeremy Ng – [jeremyngch@phillip.com.sg](mailto:jeremyngch@phillip.com.sg)**Banking and Finance**Jeremy Teong – [jeremyteongfh@phillip.com.sg](mailto:jeremyteongfh@phillip.com.sg)**US Equity**Ho Kang Wei – [hokw@phillip.com.sg](mailto:hokw@phillip.com.sg)**Oil & Gas | Energy**Chen Guangzhi – [chengz@phillip.com.sg](mailto:chengz@phillip.com.sg)**Contact Information (Regional Member Companies)****SINGAPORE****Phillip Securities Pte Ltd**Raffles City Tower  
250, North Bridge Road #06-00  
Singapore 179101  
Tel +65 6533 6001  
Fax +65 6535 6631  
Website: [www.poems.com.sg](http://www.poems.com.sg)**JAPAN****Phillip Securities Japan, Ltd.**4-2 Nihonbashi Kabuto-cho Chuo-ku,  
Tokyo 103-0026  
Tel +81-3 3666 2101  
Fax +81-3 3666 6090  
Website: [www.phillip.co.jp](http://www.phillip.co.jp)**THAILAND****Phillip Securities (Thailand) Public Co. Ltd**15th Floor, Vorawat Building,  
849 Silom Road, Silom, Bangkok,  
Bangkok 10500 Thailand  
Tel +66-2 6351700 / 22680999  
Fax +66-2 22680921  
Website [www.phillip.co.th](http://www.phillip.co.th)**UNITED STATES****Phillip Capital Inc**141 W Jackson Blvd Ste 3050  
The Chicago Board of Trade Building  
Chicago, IL 60604 USA  
Tel +1-312 356 9000  
Fax +1-312 356 9005  
Website: [www.phillipusa.com](http://www.phillipusa.com)**INDIA****PhillipCapital (India) Private Limited**No.1, 18th Floor, Urmi Estate  
95, Ganpatrao Kadam Marg  
Lower Parel West, Mumbai 400-013  
Maharashtra, India  
Tel: +91-22-2300 2999 / Fax: +91-22-2300 2969  
Website: [www.phillipcapital.in](http://www.phillipcapital.in)**CAMBODIA****Phillip Bank Plc**Ground Floor of B-Office Centre, #61-64,  
Norodom Blvd Corner Street 306, Sangkat  
Boeung Keng Kang 1, Khan Chamkamorn,  
Phnom Penh, Cambodia  
Tel: 855 (0) 7796 6151/855 (0) 1620 0769  
Website: [www.phillipbank.com.kh](http://www.phillipbank.com.kh)**MALAYSIA****Phillip Capital Management Sdn Bhd**B-3-6 Block B Level 3 Megan Avenue II,  
No. 12, Jalan Yap Kwan Seng, 50450  
Kuala Lumpur  
Tel +603 2162 8841  
Fax +603 2166 5099  
Website: [www.poems.com.my](http://www.poems.com.my)**INDONESIA****PT Phillip Securities Indonesia**ANZ Tower Level 23B,  
Jl Jend Sudirman Kav 33A  
Jakarta 10220 – Indonesia  
Tel +62-21 5790 0800  
Fax +62-21 5790 0809  
Website: [www.phillip.co.id](http://www.phillip.co.id)**FRANCE****King & Shaxson Capital Limited**3rd Floor, 35 Rue de la Bienfaisance 75008  
Paris France  
Tel +33-1 45633100  
Fax +33-1 45636017  
Website: [www.kingandshaxson.com](http://www.kingandshaxson.com)**AUSTRALIA****Phillip Capital Limited**Level 10 330 Collins Street  
Melbourne, Victoria 3000, Australia  
Tel +61-03 9629 8288  
Fax +61-03 9629 8882  
Website: [www.phillipcapital.com.au](http://www.phillipcapital.com.au)**TURKEY****PhillipCapital Menkul Degerler**Dr. Cemil Bengü Cad. Hak Is Merkezi  
No. 2 Kat. 6A Caglayan  
34403 Istanbul, Turkey  
Tel: 0212 296 84 84  
Fax: 0212 233 69 29  
Website: [www.phillipcapital.com.tr](http://www.phillipcapital.com.tr)**HONG KONG****Phillip Securities (HK) Ltd**11/F United Centre 95 Queensway  
Hong Kong  
Tel +852 2277 6600  
Fax +852 2868 5307  
Websites: [www.phillip.com.hk](http://www.phillip.com.hk)**CHINA****Phillip Financial Advisory (Shanghai) Co Ltd**No 550 Yan An East Road,  
Ocean Tower Unit 2318,  
Postal code 200001  
Tel +86-21 5169 9200  
Fax +86-21 6351 2940  
Website: [www.phillip.com.cn](http://www.phillip.com.cn)**UNITED KINGDOM****King & Shaxson Capital Limited**6th Floor, Candlewick House,  
120 Cannon Street,  
London, EC4N 6AS  
Tel +44-20 7426 5950  
Fax +44-20 7626 1757  
Website: [www.kingandshaxson.com](http://www.kingandshaxson.com)**SRI LANKA****Asha Phillip Securities Limited**2<sup>nd</sup> Floor, Lakshmans Building,  
No. 321, Galle Road,  
Colombo 03, Sri Lanka  
Tel: (94) 11 2429 100  
Fax: (94) 11 2429 199  
Website: [www.ashaphillip.net](http://www.ashaphillip.net)**DUBAI****Phillip Futures DMCC**Member of the Dubai Gold and  
Commodities Exchange (DGCX)  
Unit No 601, Plot No 58, White Crown Bldg,  
Sheikh Zayed Road, P.O.Box 212291  
Dubai-UAE  
Tel: +971-4-3325052 / Fax: + 971-4-3328895

### Important Information

This report is prepared and/or distributed by Phillip Securities Research Pte Ltd ("Phillip Securities Research"), which is a holder of a financial adviser's license under the Financial Advisers Act, Chapter 110 in Singapore.

By receiving or reading this report, you agree to be bound by the terms and limitations set out below. Any failure to comply with these terms and limitations may constitute a violation of law. This report has been provided to you for personal use only and shall not be reproduced, distributed or published by you in whole or in part, for any purpose. If you have received this report by mistake, please delete or destroy it, and notify the sender immediately.

The information and any analysis, forecasts, projections, expectations and opinions (collectively, the "Research") contained in this report has been obtained from public sources which Phillip Securities Research believes to be reliable. However, Phillip Securities Research does not make any representation or warranty, express or implied that such information or Research is accurate, complete or appropriate or should be relied upon as such. Any such information or Research contained in this report is subject to change, and Phillip Securities Research shall not have any responsibility to maintain or update the information or Research made available or to supply any corrections, updates or releases in connection therewith.

Any opinions, forecasts, assumptions, estimates, valuations and prices contained in this report are as of the date indicated and are subject to change at any time without prior notice. Past performance of any product referred to in this report is not indicative of future results.

This report does not constitute, and should not be used as a substitute for, tax, legal or investment advice. This report should not be relied upon exclusively or as authoritative, without further being subject to the recipient's own independent verification and exercise of judgment. The fact that this report has been made available constitutes neither a recommendation to enter into a particular transaction, nor a representation that any product described in this report is suitable or appropriate for the recipient. Recipients should be aware that many of the products, which may be described in this report involve significant risks and may not be suitable for all investors, and that any decision to enter into transactions involving such products should not be made, unless all such risks are understood and an independent determination has been made that such transactions would be appropriate. Any discussion of the risks contained herein with respect to any product should not be considered to be a disclosure of all risks or a complete discussion of such risks.

Nothing in this report shall be construed to be an offer or solicitation for the purchase or sale of any product. Any decision to purchase any product mentioned in this report should take into account existing public information, including any registered prospectus in respect of such product.

Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may provide an array of financial services to a large number of corporations in Singapore and worldwide, including but not limited to commercial / investment banking activities (including sponsorship, financial advisory or underwriting activities), brokerage or securities trading activities. Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may have participated in or invested in transactions with the issuer(s) of the securities mentioned in this report, and may have performed services for or solicited business from such issuers. Additionally, Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may have provided advice or investment services to such companies and investments or related investments, as may be mentioned in this report.

Phillip Securities Research or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report may, from time to time maintain a long or short position in securities referred to herein, or in related futures or options, purchase or sell, make a market in, or engage in any other transaction involving such securities, and earn brokerage or other compensation in respect of the foregoing. Investments will be denominated in various currencies including US dollars and Euro and thus will be subject to any fluctuation in exchange rates between US dollars and Euro or foreign currencies and the currency of your own jurisdiction. Such fluctuations may have an adverse effect on the value, price or income return of the investment.

To the extent permitted by law, Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may at any time engage in any of the above activities as set out above or otherwise hold an interest, whether material or not, in respect of companies and investments or related investments, which may be mentioned in this report. Accordingly, information may be available to Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, which is not reflected in this report, and Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may, to the extent permitted by law, have acted upon or used the information prior to or immediately following its publication. Phillip Securities Research, or persons associated with or connected to Phillip Securities Research, including but not limited to its officers, directors, employees or persons involved in the issuance of this report, may have issued other material that is inconsistent with, or reach different conclusions from, the contents of this report.

The information, tools and material presented herein are not directed, intended for distribution to or use by, any person or entity in any jurisdiction or country where such distribution, publication, availability or use would be contrary to the applicable law or regulation or which would subject Phillip Securities Research to any registration or licensing or other requirement, or penalty for contravention of such requirements within such jurisdiction.

This report is intended for general circulation only and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. The products mentioned in this report may not be suitable for all investors and a person receiving or reading this report should seek advice from a professional and financial adviser regarding the legal, business, financial, tax and other aspects including the suitability of such products, taking into account the specific investment objectives, financial situation or particular needs of that person, before making a commitment to invest in any of such products.

This report is not intended for distribution, publication to or use by any person in any jurisdiction outside of Singapore or any other jurisdiction as Phillip Securities Research may determine in its absolute discretion.

### IMPORTANT DISCLOSURES FOR INCLUDED RESEARCH ANALYSES OR REPORTS OF FOREIGN RESEARCH HOUSES

Where the report contains research analyses or reports from a foreign research house, please note:

- (i) recipients of the analyses or reports are to contact Phillip Securities Research (and not the relevant foreign research house) in Singapore at 250 North Bridge Road, #06-00 Raffles City Tower, Singapore 179101, telephone number +65 6533 6001, in respect of any matters arising from, or in connection with, the analyses or reports; and
- (ii) to the extent that the analyses or reports are delivered to and intended to be received by any person in Singapore who is not an accredited investor, expert investor or institutional investor, Phillip Securities Research accepts legal responsibility for the contents of the analyses or reports.