

## The British Robotics Seed Fund

### High Growth Robotics Ltd/Sapphire Capital Partners LLP

#### Summary

The fund's investment strategy is to invest in a diverse portfolio of SEIS Qualifying companies,, focusing on UK robotics start ups.

	Positives	Issues
<b>Why Invest</b>	<b>Strategy:</b> The only SEIS fund to focus solely on investments in robotics and Artificial Intelligence (AI), an area that is extremely fast growing.	<b>Investment Opportunity:</b> The opportunities and risks within the nascent robotics industry are currently hard to quantify because little company data has yet been generated.
<b>The Investment Manager</b>	<b>Team:</b> The Mentor team at High Growth Robotics have extensive experience in the field of robotics and AI.	<b>Track record:</b> Although backed by experienced people, this is a new fund with no track record.

#### Nuts & Bolts

- ▶ **Duration:** The fund will close before the end of FY 2016/2017.
- ▶ **Diversification:** The manager expects to provide a minimum of 5 investments in the fund spread across different sectors in which robotics is growing quickly.
- ▶ **Valuation:** As the fund will consist of very early stage companies, there will be little or no change in the valuation. In the later stages of the fund (after year three), valuations will be provided on a six monthly basis.

#### Specific Issues

- ▶ **Fees:** Combination of direct fees and company charges.
- ▶ **Performance fee:** Charged on a per company basis at 25% for returns over £1.00 for each £1.00 invested.

Manager information		Risks
Scheme assets	n/a	<ul style="list-style-type: none"> <li>▶ <b>Target returns:</b> The target return of tripling capital suggests a high-risk investment strategy.</li> <li>▶ <b>Companies:</b> Supplying risk capital to early stage technology companies at the start of commercialisation. There will be a spread of company returns as the successful investments will do very well, but those who fail may do so completely.</li> </ul>
Scheme target	£2m	
EIS assets	n/a	
Total FUM	n/a	
Fund launch date	2017	
Website: <a href="http://www.britbots.com">www.britbots.com</a>		

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## Table of Contents

<b>Factsheet</b> .....	<b>3</b>
<b>Fund Aims</b> .....	<b>4</b>
Summary of Risk Areas.....	4
Risk Analysis / Commentary.....	5
<b>Investment Process</b> .....	<b>6</b>
Governance and Monitoring .....	7
Track Record.....	8
Fees .....	8
<b>Investment Manager and Mentor</b> .....	<b>10</b>
<b>Appendix 1 – Due Diligence Summary</b> .....	<b>11</b>
<b>Appendix 2 – Example Fee Calculations</b> .....	<b>12</b>
<b>Appendix 3 – Robotics Industry</b> .....	<b>13</b>
<b>Disclaimer</b> .....	<b>15</b>
<b>Hardman Team</b> .....	<b>16</b>

## Factsheet

The British Robotics Seed Fund		
Product name	The British Robotics Seed Fund	
Fund Manager	Sapphire Capital Partners LLP	
Product Mentor	High Growth Robotics Ltd	
Tax eligibility	SEIS	
Target return	200%	
Target income	None	
Type of product	Discretionary portfolio service	
Term	Over 5 years	
Sectors	Technology	
<b>Diversification</b>		
Number of companies	Over 5	
(Expected) Gini coefficient	0.2	
Fees	Amount	Paid by
<b>Initial fees</b>		
Initial fee	0%	
	2-3.9% <sup>1</sup>	
Arrangement fee	Up to £12,500 set up fee per company	Investee company
<b>Annual fees</b>		
Annual management fee	Discretionary Mentoring Charge of no more than £11,400 per company	Investee Company
Custodian administration fee	£5,250 per company	Investee Company
<b>Exit fees</b>		
Performance fee	25% above £1.00	
Advisor fee facilitation		Yes
Advisor fee amounts		As agreed with investor
HMRC Approved?		No
Advance Assurance Reporting		Yes, for each investment Six monthly reviews
Minimum investment		£10,000
Current funds raised		£0m
Fundraising target		£2m
Closing date(s)		31 March 2017 with option to extend
Expected exit method		Individual investment sale, AIM listing or entire portfolio sale

Source: High Growth Robotics Ltd, Hardman & Co research

<sup>1</sup> See p9 for explanation

## Fund Aims

The British Robotics Seed Fund (BRSF) is a discretionary portfolio service which expects to invest in at least five robotics companies mainly focussing in the emerging growth field of “Robotics as a Service, “(RaaS). The target return is 3.0x gross investment. Returns will be focussed on capital gains and investors are unlikely to receive any dividends. The fund is aimed at the current tax year.

There are two groups that have a role in managing fund:

- ▶ **Fund Manager:** Sapphire Capital Partners, who do administration and compliance.
- ▶ **Fund Consultant:** High Growth Robotics Ltd (HGRL) who will source and manage the projects.

## Summary of Risk Areas

*Note: There are generic risks from investing in SEIS or unquoted companies in addition to the specific ones commented on below. Comments on relative risk refer to other SEIS investments and not to wider investments.*

### Investments

#### *Portfolio Risk*

Each investment will be providing risk capital to an unquoted early stage robotics company which needs seed capital to growth and be commercial. Because of the small fund size there will be fewer investments than typical in a larger fund, so risk may be higher. Within the robotics industry and in particular RaaS, the fund aims to diversify across several industries such as healthcare, farming and agriculture, logistics, construction & civil engineering and low-volume manufacturing. Nevertheless, with limited individual investments, stock specific risk should dominate market risk.

The target return of three times capital suggests high risk and seems appropriate for the strategy.

#### *Sourcing and External Oversight*

As this a very early stage fund, HGRL believes that sources of potential investments may come in the first instance via informal partnerships with pre-eminent robotics groups at British Universities. Investee companies may be either direct spin outs or formed by people associated with those groups.

Although this is the first SEIS vehicle for Dominic Keen, he has extensive previous experience with early stage companies. There is no Investment Committee to review the portfolio and the diligence work will all be undertaken by both Dominic Keen and Boyd Carson from Sapphire.

#### *On-going Support and Monitoring*

Early stage Seed investment can be very labour intensive. Each investment is likely to require great deal of mentoring and commercial advice. HGRL has put in place a six- step programme to help each investee company reach their goals.

### *Exits*

The fund is expected to have a life of up to eight years. There will be no exits during the first three years but HGRL expects that in the period between 3-8 years following the initial investment, investors should then receive periodic returns when investee companies are sold or listed.

## **Mentor**

### *Team*

The team consists of two individuals, Dominic Keen and Ashley Cowin. Dominic Keen will identify and mentor investee companies, Ashley Cowin will help with outsourcing and administration. Additional mentors will be added as the portfolio size increases.

### *Track Record*

There is no track record as this is an entirely new area of investment. Dominic Keen however has a successful track record within venture capital and start-ups.

## **Regulation**

### *Product*

Advance Assurance will be sought for each new investment.

### *Manager*

The manager of the fund is Sapphire Capital Management LLP. It is FCA registered (number 565716) with fund management permissions. Submissions to Companies House appear to be up to date.

High Growth Robotics Limited is not a regulated entity.

## **Risk Analysis / Commentary**

This is the first SEIS vehicle for HGRL and is the first Robotic SEIS fund to be launched. This fund is therefore somewhat of a trailblazer and investors must be aware of this risk. However, the Mentor of the fund, Dominic Keen has an extensive experience with small start-ups and understands how to nurture and grow investments from a very early stage.

Dominic Keen has established an extensive network of university contacts in order to try and source the best possible deals. The Fund Manager is unlikely to make an investment unless there is match funding involved. Thus, total seed funding available to the investee company will be much greater than the amount committed by the fund.

RaaS is still in its infancy both in the UK and globally. Although there seems to be great potential for RaaS there are very few commercial successes to date, with the most well known RaaS company (Savioke), still being relatively small.

Diversification is an important consideration for any investor – while the companies that succeed are likely to produce exceedingly good returns, those who do not may return little or nothing. This SEIS fund should be considered in the context of an investor's entire portfolio.

## Investment Process

Investors who lack familiarity with the robotics industry may wish to read the background given in Appendix 3 before reading the description of the company's process.

### Deeper dig into process

The focus of the fund is to deliver superior returns by making targeted investments in promising UK based robotics businesses. The fund seeks to invest between £50,000 and £150,000 in return for 15-30% equity of each investee company. Where possible the Fund will look for the money to be matched by a local enterprise partnership or corporate investor to increase the Seed Capital potential to up to £300,000.

In order to select targets, HRGL have identified characteristics that they are looking for from potential investments.

- ▶ Concentrate on companies which require minimal capital investment by the buyer. These fit into the thematic of “Frugal Robotics “which is predominantly RaaS;
- ▶ The investee company must provide a solution which requires physical manipulation of real world objects rather than fully virtualised systems;
- ▶ The business model has the potential to deliver at least a 200% performance improvement versus existing solutions to the same problem;
- ▶ The business should start to generate revenues within 12 months of the initial investment and have credible ROI potential.

Furthermore, whilst the investee companies will be very young it is the intention of HGRL that it invests in businesses which it sees have a clear path to profitability. and be cashflow neutral within 3 years.

In most investments, HGRL will make investments conditional upon matched funding being brought in alongside the fund's investments. HGRL believe that in practise it is a lot easier for companies to get money from local enterprise partnerships and other public sector funding sources once a private sector investor has acted as a cornerstone.

There are several sectors which management believe can benefit from and are likely to be early adopters of RaaS. These sectors are logistics and warehousing, agriculture, construction and civil engineering, low volume manufacturing, facilities management and security and specialist medical equipment.

Given the move to RaaS and “frugal robotics”, which benefit from open source technology, Dominic Keen believes that there is little realisable value in patents given the size of the seed fund investment. This means that there is unlikely to be any significant value in any company that is unsuccessful.

### *Sourcing Deals*

Potential deals will arise from two main sources. HGRL have informal agreements with 14 universities around the UK to fund potential to fund spin outs (detailed in HGRL's marketing material). Although these arrangements are non-exclusive, in reality HGRL believes that there will be relatively little competition. The reason for

this is that HGRL will invest at a stage that is considered too early for most other VC funds or larger companies.

Once an investment has been identified and brought to the Fund Manager for approval, HGRL have put in place a programme to ensure that the investee companies receive the best possible help to maximise their chances of success.

Working with academics does have distinct challenges, which HGRL are aware of. This is an area that Dominic Keen believes that he can leverage his extensive expertise. While academics are very intelligent, they often lack business experience. At the seed stage, funding is usually to bring in commercial support to build towards monetising IP or technology work from the academic side.

In the prospectus, HGRL has given examples to illustrate the opportunities within RaaS, but investors must be aware that these are opportunities only and HGRL may not be able to source similar opportunities.

### *Decision Making*

Dominic Keen aims to bring a minimum of 5 investments for Sapphire Capital Partners to consider. It is anticipated that the fund will be fully invested by October 2017 so that investors can apply the benefits to their 2016/2017 tax return.

Unusually there is no Investment Committee to scrutinise each deal. Investors in the fund have to be comfortable with the expertise and the track record of Dominic Keen, his closeness to potential investments and the informal network of advisers. Management have indicated that an Investment Committee is likely to be established as the business grows.

Whilst Dominic Keen will introduce potential investments, Sapphire Capital Partners, the Fund Manager, will ultimately be responsible for each investment.

At this early stage, Dominic Keen has already identified potential candidates for recommendation to the Fund Manager. It is anticipated that investments are likely to be made as soon as is practical after the Fund launch.

Once an idea is accepted by Sapphire Capital, there will be further legal diligence before the investment is made.

## Governance and Monitoring

Advance assurance will be received from HMRC on all investments prior to completion.

All client cash assets are held by Woodside Corporate Services (UK) Limited, who are the Administrator for the Fund. Cash is held on short term deposit and earns interest for investors where possible, though the need to have it available means rates are limited in the current environment. The Fund's shares are held in the custody of WCS Nominees Limited.

Early stage company valuations are extremely difficult to assess for SEIS companies. HGRL anticipate however that bi-annual valuations will be available as the fund matures – which HGRL anticipate to be in the region of three years.

Like most SEIS investors, HGRL recognises that support for the investee companies goes beyond mentoring the company for 18 months. HGRL see their primary role in

supporting and shaping the strategy and funding requirements. Broadly HGRL will not get involved in running the company, but have implemented a six- point plan which they believe will deliver sufficient support and mentoring to allow the investee companies to prosper. The six- point plan is:

- ▶ **Financial Discipline:** The Company Mentor will hold review meetings with every Investee Company on at least a monthly basis. These meetings will focus on adopting appropriate spending controls as well as building realistic business forecasts.
- ▶ **Efficient Operational Model:** The Mentor will help the Investee Company adopt the optimal business model. Non-core activities may be outsourced in order to keep costs under control. Crowdfunding and debt may also be used to optimise the business model.
- ▶ **Commercial Management:** The Mentor will help each company to adopt a sound “go to market strategy”. Where possible the Company Mentor will help to procure and source new business leads on behalf of the Investee Companies nationally and internationally.
- ▶ **Access to Networks:** As a follow on from the above point, each Investee Company will have access to a variety of formal and informal networks which may help to develop business prospects.
- ▶ **Free Office Space and Access to Workshops:** Investee companies if needed will have free access to office space at Adastral Park, BT’s Global Research Headquarters for an 18-month period.
- ▶ **Showcasing and PR:** Each robot developed by an Investee Company will be presented in a virtual showcase where high quality video demonstrations will be made freely available. The company Mentor team will also be active to help with any PR opportunities.

For any investments that fail to thrive despite intensive mentoring, HGRL will review each investment on merit. Those investments that have not delivered against their business plan are likely to be wound up and HGRL will attempt to recoup some monies via the sale of any Intellectual Property attributable to the company, although is likely to be negligible.

### *Exits*

The expectation is that exits will come through trade sales, IPO or possibly a complete portfolio sale.

## Track Record

There is no track record as this is a new fund and a new mentor.

As detailed in the biography, Dominic Keen from HGRL has extensive experience both as a manufacturing engineer and in venture capital.

## Fees

The fees for the Fund are set out in the table on page 3. Whilst the fee scales are variable and the set up fees can potentially reach 3.9%, it is the intention of the Fund Manager to keep the fees below 2%. There is provision for an arrangement fee of up to £12,500 per company to cover any incidental legal fees, however these will only



be used in exceptional circumstances and therefore are not included in our fee calculation.

### *Exit Fees*

The performance fee is 25% on returns over £1.00 for each £1.00 committed. The performance fee is split with HGRL receiving 17.5% and Sapphire Capital Partners LLP 7.5%. Investors should note that this is charged on a per company rather than a portfolio basis. If any investee companies make a loss then the effective performance fee on the portfolio as a whole will be higher than 25%, and a performance fee may be payable on some investments even if the portfolio as a whole does not make a net gain.

### *Investee Company Fees*

For the investee company, there are also recurring charges. These are as follows:

- ▶ Less than £200,000 raised: c£3,000 annual fund and admin fees – no mentoring fee;
- ▶ Less than £200,000 raised\*: c.£3,000 annual fund admin fees\*\* & no mentoring fees;
- ▶ £200,000 – £250,000 raised\*: c.£3,000 annual fund admin fees\*\* & c.£6,000 mentoring fees; and
- ▶ More than £250,000 raised\*: c.£3,000 annual fund admin fees\*\* & c.£10,000 mentoring fees.

(\* includes equity, committed grants & loans and expected tax credits)

\*\* may vary with total portfolio size)

### **Fundraising targets**

Sapphire is aiming to raise up to £2.0m as of tax year end 2017. The minimum fund size is £200,000.

The minimum subscription is £10,000 with higher amounts in multiples of £1,000.

## Investment Manager and Mentor

Sapphire Capital is an experienced fund manager within the Tax Enhanced Services market. They provide a wide range of specific Tax Enhanced Services and have appropriate investment management permissions from the FCA.

High Growth Robotics Ltd is a limited liability company who provide consulting and support to companies in the robotics sector. It does not offer investment advice nor any regulated activities.

### People

#### ***Dominic Keen – Mentor, High Growth Robotics Ltd***

Dominic Keen is a successful British technology entrepreneur. Dominic holds a Master's Degree in Engineering from Cambridge University. He started his career in Venture Capital, firstly with WPP Group, then as head of Venturing for Egg Plc. In 2006, he founded mPorium a software company which enables clients to prosper from the shift to mcommerce and from new market opportunities that smartphone adoption has created. mPorium floated on the London Stock Exchange in 2015. Currently he is developing and mentoring robotics business. He also acts as a non-executive director for a number of other early stage technology businesses, including Wriggle and Redbeard. Dominic's extensive experience in engineering, software, AI and machine learning equip him to mentor BRSF.

#### ***Ashley Cowin – Portfolio Administrator, High Growth Robotics Ltd***

Ashley Cowin is an experienced general manager in the areas of outsourcing and financial services. Ashley is currently the Managing Director of Twilight Customer Services, an Isle of Man outsource service centre offering a wide range of services.

#### ***Boyd Carson – Managing Partner, Sapphire Capital Partners LLP***

Having worked for the Japanese Government and as a Director at PwC, he then specialised in the construction and energy sectors. Currently a Director of two such companies under the Sapphire name, he is also a Chartered Accountant.

#### ***Vasiliki Carson - Partner, Sapphire Capital Partners LLP***

Having started her career at JP Morgan Chase, she moved to Transaction Services at PwC before becoming an Associate at Goldman Sachs. She returned to PwC as a Corporate Finance Manager until she left for her present role.

## Appendix 1 – Due Diligence Summary

Summary of core due diligence questions		
Manager		Validated by
Company	Sapphire Capital Partners LLP	
Founded	2009	Hardman & Co
Type	Limited Liability Partnership	Hardman & Co
Ownership	Two LLP Designated Members	Hardman & Co
FCA Registration	565716	Hardman & Co
Solvency	Yes	Sapphire
EISA member	Yes	Hardman & Co
<b>Fund Mentor</b>		
Company	High Growth Robotics Ltd	
Founded	2008	Hardman & Co
Type	Limited Liability Company	Hardman & Co
Ownership	Dominic Keen owns 100%	Hardman & Co
Isle of Man registration	003169V	Hardman & Co
Solvency	Yes	Company
EISA member	No	Hardman & Co
<b>Fund Custodian</b>		
Company	Woodside Corporate Services Limited	
FCA Registration	593293	Hardman & Co

*Source: Hardman & Co research*

The manager of the fund is Sapphire Capital Partners. It is FCA registered with fund management permissions as a Small Authorised UK AIFM. It can control, but not handle, client money. Its Company House filings appear to be up to date.

High Growth Robotics Ltd is registered in the Isle of Man. They have accounts filed to 4 October 2016. There are two directors: Dominic Keen and Ashley Cowin.

## Appendix 2 – Example Fee Calculations

This calculates the estimated total amount payable to the manager under certain assumptions.

### Basic Assumptions

Term	5 years
Investor amount	£100,000
Company Investment	£250,000

Source: Hardman & Co research

### Calculations

		Hardman Standard			Target
Gross Return		-50%	0%	50%	200%
Amount (pre tax relief)		£100,000	£100,000	£100,000	£100,000
<b>Initial Fees</b>	<b>Rate</b>				
Initial Fee <sup>2</sup> (offset)	2.00%	£0.00	£0.00	£0.00	£0.00
<b>Total</b>		£0.00	£0.00	£0.00	£0.00
<b>Net investment</b>		£100,000.00	£100,000.00	£100,000.00	£100,000.00
<b>From Company</b>					
Initial Fee	2.00%	£2,000.00	£2,000.00	£2,000.00	£2,000.00
Set-up Fee	£12,500	£0	£0	£0	£0
Mentoring Fee (18 months)	£11,400	£17,100	£17,100	£17,100	£17,100
Custodian Fee	£5,250	£26,250	£26,250	£26,250	£26,250
<b>Gross fund after investment return</b>		£50,000.00	£100,000.00	£150,000.00	£300,000.00
<b>Exit fees</b>					
Performance	25%	£0.00	£0.00	£12,500.00	£50,000.00
Net amount to investor		£50,000.00	£100,000.00	£137,500.00	£250,000.00
Gain (pre tax relief)		-£50,000.00	£0.00	£37,500.00	£150,000.00
Gain (post tax relief)		£0.00	£50,000.00	£87,500.00	£200,000.00
<b>Total fees to manager</b>		£45,350.00	£45,350.00	£57,850.00	£95,350.00

Source: Hardman & Co research

Notes: Gain (post tax relief) only takes account of initial income tax relief. Other reliefs may be available to investors

<sup>2</sup> Based on 2% charges as detailed

## Appendix 3 – Robotics Industry

Some investors will not be familiar with the robotics industry. In this appendix, we give a very brief overview of some of the relevant features of the market.

### Size of Market

According to Boston Consulting Group (BCG)<sup>3</sup>, by 2025 the share of tasks performed by robots will rise from a global average of c10% to an estimated 25% across all global manufacturing industries. BCG predict that growth in the global installed base of advanced robotics will accelerate from 2-3% in 2015 to 10% annually over the next decade. This growth may be transformational and in some industries more than 40% of manufacturing tasks could be done by robots.

Many industries are reaching an inflection point at which for the first time an attractive return on investment is possible for replacing manual labour with machines on a wide scale.

The predicted rapid rise in growth in the robotics industry is due to a confluence of events. The prices of hardware and enabling software are predicted to drop by more than 20% over the next decade. And as robots become more affordable and easier to program a greater number of small manufacturers will be able to deploy robots and integrate them into supply chains.

The announcement on March 1<sup>st</sup> that James Dyson is investing £2.5bn in a research campus for robotics, AI and other advanced technology helps to validate the market opportunity. Furthermore, Philip Hammond the Chancellor announced in the 2017 budget a £270m funding package to be partially invested in robotics.

Amongst high cost nations, Canada, Japan, South Korea, the UK and the US are at the vanguard of deploying robots.

### Robotics as a Service (“RaaS”)

The robotics business has historically operated on a “classic” capital equipment product design and sales business model. Under this existing strategy, new products are developed to meet a market need and then marketed and sold to target customers as a capital asset purchase. The customer owns the equipment and is responsible for the maintenance and repair of the equipment over its useful life. At the end of the product life, the customer is responsible for disposal of the obsolete equipment. RaaS changes the traditionally capital intensive robotics model. A “Pay For What You Consume” subscription model allows the buyer/consumer to scale up or scale down their consumption as their needs change.

With the emergence of RaaS, the buyer will purchase a complete service rather than a good which has a high capital cost. Within RaaS the consumer can leverage additional robot usage during peak periods and idle or halt service during slow periods, with a variable rate of payment based on consumption. The lowering of capital costs should enable rapid adoption as robots will have practical uses in more industries apart from traditional manufacturing. In the future, it is possible that robots may be deployed in a similar manner that plant hire equipment is used today.

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<sup>3</sup> BGC Perspectives Sept 2015

The model of Software-as-a-Service (SaaS), whereby consumers pay a fee for use rather than a perpetual license has now become applicable to the new Robots-as-a-Service (RaaS) business model. “Big Data” and SaaS have been transformational in lowering costs and improving productivity as big data has moved away from the desktop/server model and into the cloud.

RaaS is the next step along from “Dumb Robots” which have been the norm until recently. Dumb Robots constituted the first phase of task automation and have been widely adopted in manufacturing industries such as the automotive sector. However, a dumb robot is programmed to perform a fixed task and is unable to learn remotely over time. The emergence of the open source worldwide community of developers has enabled robots to be programmed and controlled via the cloud. The software controlling robots can allow different and improved tasks to be performed. Companies will be able to develop technology which can lead to autonomous systems operations. The business model for buying and selling industrial equipment is currently rapidly evolving not only in the UK but globally. The convergence of cloud-based solutions for IT infrastructure and the evolution of innovative enterprise software licensing is now spilling over to manufacturing infrastructure and supply chains.

RaaS, although still nascent, is beginning to impact how robotics companies structure their organization and product design process. New US companies such as Savioke and Fetch Robotics are the vanguard in terms of providing a pay-as-you-go robot in a subscription or hourly rate based financing model.

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*(Disclaimer Version 2 – Effective from August 2015)*

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